BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2014. (U39M)	Application 12-11-009 (Filed November 15, 2012)
And Related Matter.	Investigation 13-03-007 (Filed March 21, 2013)

PREPARED TESTIMONY OF JOSHUA SPERRY ON BEHALF OF THE ENGINEERS AND SCIENTISTS OF CALIFORNIA, LOCAL 20 IFPTE

May 17, 2013

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Q: Please state your name and summarize your professional experience.

A: My name is Joshua Sperry. I am the Senior Union Representative for PG&E Unit of the Engineers and Scientists of California, Local 20 IFPTE (ESC). ESC represents roughly 2,800 professional and technical employees at Pacific Gas and Electric Company (PG&E), including Estimators, Mappers, Engineers, Project Managers and others in a variety of departments, including Service Planning, Customer Service Delivery, Distribution Planning and Operations, Electric Substation and Transmission Line Engineering, Power Generation (Nuclear, Hydro and Fossil), General Construction, Land and Environmental Management, Telecom Engineering and Design, and other areas. I want to make it clear at the outset that all of my testimony refers only to work performed by ESC-represented employees. With regards to contracting out of work, or workforce planning, I am only referring to ESC workforce and the work performed by those employees, not to the employees represented by IBEW Local 1245 or other unions or the construction, physical, clerical and other work that they perform.

My responsibility as ESC's Senior Representative at PG&E is to oversee all of the union's systemwide operations and to be the main point of contact for upper PG&E management to discuss issues with the union.

Q: What are the topics of your testimony?

A: My testimony will focus on the implications for safety and reliability of certain of PG&E's requests and the corresponding recommendations of the Division of Ratepayer Advocates (DRA).

Q: Why are these issues important to ESC?

A: ESC in general supports programs to improve the safety and reliability of PG&E's gas and electric systems. ESC's main concern is that work is properly engineered and designed prior to construction. For most work types, this means developing a high-level scope and then conducting

detailed engineering analysis and job package design. I have seen that in many areas, especially in gas distribution, PG&E is developing more detailed work procedures which will improve safety during the construction phase. PG&E is also upgrading its construction standards and procedures, especially Gas Distribution and Transmission, which will lead to greater facility safety.

I am concerned that DRA is recommending severe reductions in funding for many programs intended to improve system safety and reliability. I think this is a short-sighted approach which will eventually lead to higher costs in the future. Although investing in infrastructure appears expensive, failure to invest is not a real savings. A single catastrophic failure, such as the major fire at Polk and O'Farrell streets in San Francisco in 2009, can result in greater costs than an entire equipment replacement program.

Q: What are ESC's specific areas of concern?

A: ESC's concerns fall into four broad categories: Safety and Reliability Programs, Training, Benefits and Compensation, and Labor Escalation.

SAFETY AND RELIABILITY PROGRAMS

Q: What are ESC's concerns about Safety and Reliability Programs?

A: Safety and Reliability Programs need to be properly engineered and designed. Programs and facilities must be engineered and designed to be safe both for the workers involved and for the general public. Good engineering involves selecting the best alternative to improve safety, service and reliability at the lowest cost. Proper design according to the correct standards ensures safe facilities. Also, having a good work package prior to construction ensures that accurate documentation is produced during the construction phase, so that all the important attribute information can be recorded. As we have seen, good record-keeping is essential for public safety and leads to much more efficient operations in many areas.

DRA's recommendations are short-sighted. DRA recommends spending cuts in hopes of reducing the cost to customers, but the real effects of DRA's recommendations would be a lack of investment in necessary infrastructure. A lack of investment in necessary infrastructure will

eventually lead to even higher costs, worse service, or both.

Q: What specific programs and recommendations is ESC concerned about?

A: ESC is concerned about the following programs:

a. Mapping and Record Management Initiatives

b. Electric Emergency Recovery

c. Electric Engineering – Distribution Planning, Operations and Power Quality

d. Transfer Ground Rocker Arm Main/Transfer Ground Rocker Arm Line (TGRAM/TGRAL) switch replacement

e. Substation Protective Relays

f. ATS (Applied Technology Services)

g. Gas Distribution Control Center

h. Leak Survey

i. Gas Mapping records conversion

Mapping and Record Management Initiatives

Q: Why is ESC concerned about PG&E's Mapping and Record Management Initiatives?

A: ESC represents the roughly 240 Mapping Technicians, gas and electric, at PG&E. These employees use PG&E's mapping systems to document and make available maps and information about PG&E's gas and electric distribution facilities, and also gas transmission pipelines. I support PG&E's proposal to improve the quality of the maps and mapping tools, so that more information is stored and made more easily accessible in the Utility's mapping systems. The "end users" of the information contained on the maps are practically every department at PG&E: planning, engineering, emergency response, maintenance and construction, operations, billing, and others.

Q: How do you respond to DRA's comments that projects like this have been funded before?

A: Over the past two decades, PG&E has begun to move from entirely paper-based mapping to using some electronic systems. PG&E has created some electronic maps, and some databases

of asset information, but they are not yet very integrated, and they do not contain as much information as PG&E's engineers, planners and other employees would like to perform their work thoroughly and efficiently.

Especially with regards to "as-built" information, PG&E still relies for detail on paper records stored in Mapping departments in each division office. This means that PG&E cannot easily conduct system-wide engineering analysis of its facilities. The gas and electric distribution as-built records have never been scanned or converted. That is because the expense and effort of scanning all the as-built information is so massive that PG&E has never made the request before.

An analogy would be to a library with a card catalog – the Gas and Electric Mapping System (GEMS) and Integrated Gas Information System (IGIS) are the catalog, but the paper as-built files are the books. PG&E in the past has converted the "catalog" system to electronic systems, but is now requesting to convert all of the information in the "books" to an electronic system as well. It is much more information than has previously been converted.

Q: Has there been an increase in base workload for mapping departments?

A: Absolutely. First of all, the amount of construction work being generated which requires mapping is growing very fast. Second, mappers are doing more detailed work and quality control on every job. For example, the materials traceability protocol for gas construction established by the CPUC has led to a massive increase in the amount of records that need to be created, maintained, tracked and properly stored for every job, even the most basic jobs. Mappers now check for many more types of information than they have ever done in the past, and the growth in records is only expected to increase. When information from the Construction Department is not complete or accurate, Mappers must spend considerable time to find the appropriate personnel and get them to complete the paperwork. Third, implementation of Geographic Informational System (GIS) based mapping tools will create even more work, as many more items of asset information will need to be entered and – very importantly – checked and validated. Fourth, PG&E's new focus on risk assessment as the basis for planning has led to more demands for reports and information from mapping departments. Mappers are being asked to provide more

information to internal PG&E engineering groups, and this again creates more workload for Mappers.

In short, although PG&E has added some more mapping technicians in gas mapping, the increase is barely sufficient to keep up with the increase in workload, and ESC only expects the workload to continue to increase due to the volume of construction activity and the need for much greater and more accurate information recorded for every job.

Q: What is your opinion of PG&E's proposed Records Quality Assurance Program?

A: I think this would be an important program in terms of improving the quality of PG&E's maps and records. This function could be performed by Lead and Principal Mapping Technicians, who go through a detailed training program and are tested in proficiency and standards before obtaining that job classification. The training program and certification already exist, so implementing it would not be a great expense. The advantage in terms of increasing the accuracy of records should be obvious.

Electric Emergency Recovery

Q: Why is ESC concerned about Electric Emergency Recovery?

A: In decades past, ESC-represented employees were not highly involved in Emergency Recovery activities. However, in the past few years, PG&E has started to utilize certain job classifications of ESC-represented employees in Emergency Response actions, and we have seen that this makes the recovery effort more efficient and effective. Importantly, the participation of ESC-represented employees also helps establish documentation of the activities that occurred during the event, which is important for financial reporting. I am hopeful that further involvement of ESC-represented employees in emergency recovery actions will increase PG&E's effectiveness, including faster recovery time and better documentation of the response actions.

Q: Which types of ESC represented employees are involved in Electric Emergency Recovery?

A: The first group I think of in this area are the Electric Estimators and Associate Distribution Engineers (ADE's). Normally, these job classifications are responsible for designing

PG&E's distribution facilities and putting together work packages for construction crews, among other functions. During a storm or other emergency, this role becomes even more important. When field crews go out to repair damaged facilities, having a good work package means that they will be able to arrive at the site with the materials they need and with a clear plan of how to repair or replace the damaged equipment. This makes the recovery more efficient.

Q: What was the experience of ESC-represented employees during the PG&E Mutual Aid response to "Superstorm Sandy"?

A: Roughly 20 Estimators, ADE's and Field Engineers were among the employees that PG&E sent to New York to assist with that region's recovery from Superstorm Sandy in October, 2012. These employees reported that they were able to make significant contributions to the recovery effort because of their important support and planning roles for construction. For example, Consolidated Edison, the local electric utility, was not able to provide good circuit maps to PG&E personnel. Estimators and ADE's were able to conduct visual inspections of overhead lines and equipment, which enabled PG&E personnel to understand the system so as to speed restoration work. The Estimators and ADE's were helpful in identifying what facilities were damaged and figuring out how to get the right parts and materials to those sites, so that the construction personnel did not have to spend their time on procurement and delivery. These are just some of the instances which those employees have told me about. Based on this experience, ESC sees that planning and design professionals can play a bigger role in emergency response, and this will improve the speed and quality of the entire effort.

Electric Engineering – Distribution Planning, Operations and Power Quality

Q: Why is ESC concerned about Electric Engineering – Distribution Planning, Operations and Power Quality?

A: ESC represents the roughly 90 Electric Distribution Engineers who work in Distribution Planning and Operations. The workload for this group is increasing, but the headcount is not increasing and in fact has fallen slightly, although I believe that PG&E is working to bring the headcount back to its previous level.

Q: Why has the workload in this area increased?

A: There are several areas where the work is growing. First is the area of generation interconnection studies. Every application to connect a new generator at the Distribution level requires an engineering study. This is very important to ensure that the connection can be safely made and without impacting the safety or power quality for other nearby customers. PG&E's electric distribution network was not originally designed for many distributed generation points, so configuring the line equipment to handle new sources is technically challenging. The number of applications has been greatly increasing due to the Renewable Portfolio Standard and other incentives for renewable power generation, especially programs like the Renewable Auction Mechanism (RAM) and the Renewable Market Adjusting Tariff (ReMAT) that target smaller renewable generators that are more likely to interconnect at distribution-level voltages. As recently as ten years ago, PG&E did not have any Distribution Engineers solely dedicated to this task; rather, these studies were done on an "as needed" basis, usually by the engineer for the area, but of course they were not very common. In 2012 however, PG&E established a dedicated group of about 6 Distribution Engineers who only do generation interconnection studies. However, that took headcount away from other planning activities.

Distribution Operations is also an area where workload is very high and increasing. Engineers working in Operations report that they are receiving more urgent requests for clearance analyses and for guidance for system operators.

TGRAM/TGRAL Switch Replacement

Q: Do you support PG&E's request for funding for the TGRAM/TGRAL switch replacement program described in Exhibit PG&E-4, Chapter 16?

A: Yes.

Q: Why do you support this request?

A: ESC's members who work in Electric Distribution are very aware of the age and obsolescence of the TGRAM/TGRAL switches. These old devices are difficult to operate and even dangerous, as the 2009 fire at Polk and O'Farrell in San Francisco demonstrated. I think

many Distribution Engineers will be pleased to see that PG&E is singling out these switches for a complete replacement. This is a benefit to reliability and public safety, and ESC strongly supports this program.

Substation Protective Relay Replacement

Q: Do you support PG&E's request for funding of the Substation Protective Relay Replacement program in Exhibit PG&E-4, Chapter 17?

A: Yes, although I think it should be expanded beyond PG&E's request.

Q: Why do you think this program should be expanded?

A: Currently, PG&E prioritizes its decisions to replace substation protective relays based on age and importance of the facility, plus other factors. Often the number of relays replaced per year is limited by the budget level. More relays should be replaced because many of PG&E's older substation relays are so limited that they cannot be set to PG&E's newer minimum protective settings standards. As a result of this expenditure, circuits will be protected at the level that they should be. Proper protective setting options can also have positive impacts on reliability as smaller section of circuits are affected by outages. ESC urges that all relays and current transformers should be replaced to ensure that the equipment can be set at least to meet PG&E's minimum protection settings.

Applied Technology Services

Q: Are you familiar with the Applied Technology Services department at PG&E?

A: Yes. ESC Local 20 represents approximately 50 technicians and technologists in this department.

Q: Do you support PG&E's request for funding for Applied Technology Services in Exhibit PG&E-4, Chapter 3?

A: Yes.

Q: Why do you support this request?

A: The ATS department is a unique area within PG&E that provides very specialized services

to the rest of the Company. For example, ATS performs metallurgical testing of gas pipelines that only a few other utilities and consulting firms can do. In fact, some of the technicians and engineers from ATS have left PG&E to work at the National Transportation Safety Board (NTSB) in their gas pipeline division.

However, the Independent Review Panel that investigated the San Bruno gas explosion found that ATS test results are hard to access. PG&E's initiative to scan the ATS document library will make the test results much more accessible and useful. Gas Engineers will have much more information about the properties of the pipelines, and about which pipelines have been tested. Other organizations such as Hydro and Nuclear generation will also have better access to their archived testing information. This should lead to savings in the future as engineering analyses can be done faster and more thoroughly, and duplication of testing can be prevented.

Similarly, the capital upgrade for the ATS facility is long overdue. Our members who work there report problems with furniture and basic parts of the building. Considering the value of the equipment at the San Ramon Technology Center, the building, parking lot, and equipment upgrades are a small expense that will protect a much larger investment. Not much work has been done on the building in 40 years, so it is also likely that if this money is spent now, another upgrade will not be needed for quite some time.

Gas Distribution Control Center

Q: What is ESC's position on the Gas Distribution Control Center?

A: ESC supports PG&E's proposal and requested funding.

Q: Why does ESC support PG&E's request for funding to build a Gas Distribution Control Center.

A: Many members of ESC are familiar with the issues of gas control and its relation to construction projects, especially the Gas Distribution Engineers who are represented by ESC at PG&E. Listening to these employees, I have heard that they want a greater standardization of real-time operational support. There is currently no standard process for contacting a Distribution Engineer if a field crew needs engineering support, or if an immediate change in operating

pressure is needed. Of course, crews and operators do contact the relevant engineers, but the method for call-out and response is different in different areas and roles and responsibilities are not well defined. Although this has not led to an incident, I think it is prudent of PG&E to establish standard processes and have Engineers who are readily available and provided with all the necessary information to support operations and real-time requests from construction. This is the type of process enhancement which reduces risk.

Gas Leak Survey

Q: What is the role of ESC-represented employees in the Gas Leak Survey?

A: Gas Mappers, who are represented by ESC, play an important role in the gas leak survey process. They are responsible for documentation of the surveys, and scheduling of the surveys based on plat maps. All information about detected and repaired leaks is ultimately turned in to and stored by the mapping department.

Q: What is your opinion of PG&E's proposed gas leak survey enhancements?

A: I think that PG&E needs to invest more in its leak survey programs. It is clear that the frequency and thoroughness of past leak surveys were not adequate to find and repair all the leaks. Now that PG&E is increasing both the quantity and intensity of surveys, extra funding is needed. It is important to remember that a modest increase in leak survey and repair is a classic preventative expense, and that failure to find and repair leaks can lead to expensive events. Even more than the cost of damage to property, of course, is the potential for a gas leak to injure people.

Gas Mapper Manual Update

Q: Are you familiar with the Gas Mapper Manual?

A: Yes. This document is used as part of the Mapper Advancement Training Program, which is a jointly developed and negotiated training program between PG&E and ESC Local 20. The training program has separate tracks for Gas and Electric Mapping, and the Gas Mapper Manual is referred to in the Gas Mapping training modules.

Q: Would updating the Gas Mapper Manual require negotiation and agreement between PG&E and ESC Local 20?

A: Yes.

Q: Do you support PG&E's plan to update the Gas Mapper Manual, set forth in Exhibit PG&E-3, Chapter 3?

A: I strongly support this plan. An update to the manual is long overdue. Of course, the San Bruno incident demonstrates the need for better documentation of gas facilities, which means better Gas Mapping. Training of Gas Mappers, and providing a manual with all the current standards and procedures, is a vital part of ensuring better documentation and a safer gas system. ESC Local 20's Gas Mapping members have requested this update for years, so I am pleased to see that PG&E has requested funding specifically for this project.

Gas Records Conversion

Q: What is ESC's concern about the Gas Records Conversion program?

A: DRA made a calculation error in its proposal for records retrieval (Exhibit DRA 9, table 9-10, page 30). DRA's proposed amount is $204,000 but should be $2,040,000. DRA projected a total cost for converting 10,000 linear feet at $204/foot. DRA's total cost for this line was $204,000, but it appears that a zero was dropped, because $204x10,000 is actually $2,040,000.

TRAINING

Q: What is the importance of technical training programs at PG&E?

A: Training programs are essential for many of the technical job classifications represented by ESC at PG&E. The two most detailed training programs that ESC members have worked on are the Estimator Training Program and the Mapper Advancement Training Program. These programs contain a detailed curriculum consisting of 6 modules, with a test at the end of each module to check whether the trainee has learned the material. They also contain extensive on-the-job training elements with close supervision by lead personnel who have passed a much more rigorous test in order to establish their qualifications to train new personnel. These programs

have increased the effectiveness of Estimators and Mappers at PG&E.

ESC would like to see formal training programs expanded to other job classifications as well. During contract negotiations in 2011, an important proposal put forward by ESC was to establish new training programs for Service Planning professionals (Senior New Business Representatives and Industrial Power Engineers) and for Field Engineering Technicians. The Service Planning training program has already been developed by PG&E, and has been so well received that PG&E is planning to offer it to employees in other job classifications as well.

Q: Has training for Field Engineering Technicians been developed yet?

A: No, this training program has not yet been started. ESC would like to see PG&E's request for Technical Training Curriculum expanded to include creation of a formal training program for Field Engineering Technicians.

Q: What are your concerns about DRA's position on training programs?

A: I am very concerned that DRA is proposing to eliminate all funding to develop and provide training for Electric Distribution (MWC DN) and Gas Distribution (MWC AB). This is simply unsafe. Employees must be properly trained in order to design and build PG&E's facilities safely. This requires training both for new employees who are hired to replace those who retire or leave, and for ongoing training for existing employees. On top of this, PG&E is expanding its Gas workforce in particular, which is critical to enlarge PG&E's capacity to meet its safety goals for the gas network. This workforce expansion will require even more training resources.

I think the importance of technical training in areas like gas and electric distribution is well understood. Training is completely fundamental to the work. I cannot understand DRA's request to entirely eliminate funding for training programs. That is unsafe. If anything, PG&E's training request should be expanded, not reduced.

BENEFITS AND COMPENSATION

Q: What is your position on employee benefits?

A: Employees have already made concessions in the areas of health care and retirement

benefits. In 2011 contract negotiations, ESC agreed to major changes in health care and pension benefits which will lower PG&E's costs in those areas. Employees will pay more towards their health care, and also will be incentivized to participate in programs to keep them healthier and reduce their health care spending. ESC also agreed to restructure the pension plan, which will provide significant cost savings to PG&E.

These agreements were not popular or easily made, but PG&E convinced the Union and the employees that they were necessary in order to keep costs in line and meet the concerns that DRA has raised. PG&E was very insistent on this topic. It is understandable that DRA wishes to continue reducing costs, but it should be understood that employee benefits is an area where significant cost savings programs have just been put into place.

LABOR ESCALATION

Q: What is your opinion on the labor escalation factors?

A: As I noted previously, employees have already made significant concessions in the areas of health care and retirement. ESC supports PG&E's labor escalation forecast because it reflects the reality that working people face. Most ESC members at PG&E live in the Bay Area, which is one of the highest cost of living areas in the entire United States; by some measures it has the most expensive cost of living in the whole country. Housing prices are once again rising very fast.

PG&E needs to pay a market rate in order to attract and retain qualified employees. Many technology companies offer very high salaries for the same type of technical and professional positions that ESC members hold – for example, electrical engineers, GIS developers and controls systems designers, to name a few. Experienced employees are difficult to replace, and losing them can be very damaging to operations. Long-term employees have specialized knowledge that makes them much more effective and valuable than new hires. For example, Diablo Canyon Power Plant has many systems that are completely unique, and only understood by the engineers who have designed them and overseen their maintenance and reconstruction over the years. Certainly a new hire can come in, study the plans, look at the systems, and eventually figure out

how they work. But this takes much more time than simply asking someone who already knows.

Furthermore, given the high cost of living in the Bay Area (and in San Luis Obispo), it is often not a great cost savings to hire a new employee. PG&E will have to offer competitive pay when hiring personnel from outside the area.

Q: Are you concerned about DRA's proposal for labor escalation?

A: Yes. I think that if the Commission adopts a labor escalation factor as low as DRA recommends, many employees will look at that and think "I am not going to get a pay increase for the next three years." They will start looking for other jobs, or the retirement-eligible population will choose to retire earlier than they would have otherwise. Even if those vacancies can be filled, as I noted, they will be filled with new employees who will not have the same skills and knowledge.

Q: Does that complete your testimony?

A: Yes.