Application of SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E) For Authority To Update Marginal Costs, Cost Allocation, And Electric Rate Design.

Application 11-10-002
Exhibit No.: (SDG&E-210)

PREPARED REBUTTAL TESTIMONY OF

JOSE L. CARRANZA

CHAPTER 10

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

JULY 17, 2012

TABLE OF CONTENTS

PREPARED REBUTTAL TESTIMONY OF

JOSE L. CARRANZA

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

(CHAPTER 10)

I. OVERVIEW AND PURPOSE

The purpose of my rebuttal testimony is to support Mr. Chris Yunker's rebuttal testimony of Mr. R. Thomas Beach's prepared direct testimony on behalf of Solar Energy Industries Association (SEIA), and Mr. Bill Powers' prepared direct testimony on behalf of the San Diego Solar Coalition (SDSC). Specifically, I address Section V of Mr. Beach's testimony, which discusses San Diego Gas & Electric Company's (SDG&E's) rate design for commercial and industrial (C&I) customers. In addition, my rebuttal addresses and responds to the questions related to non-coincident peak demand posed and answered by Mr. Powers on pages 17-19 of his testimony.

My rebuttal testimony explains how SDG&E's distribution system design is not based on coincident system peak demand loads. Specifically, my testimony speaks to how SDG&E's electric distribution system is designed to meet non-coincident peak demand.

- SDG&E's distribution system is designed to meet individual customer service requirements and not designed for coincident system peak demand.
- Designing the distribution system using solely coincident peak demand reduces the distribution system's operational safety and reliability, and increases the possibility for equipment overloads and failures.

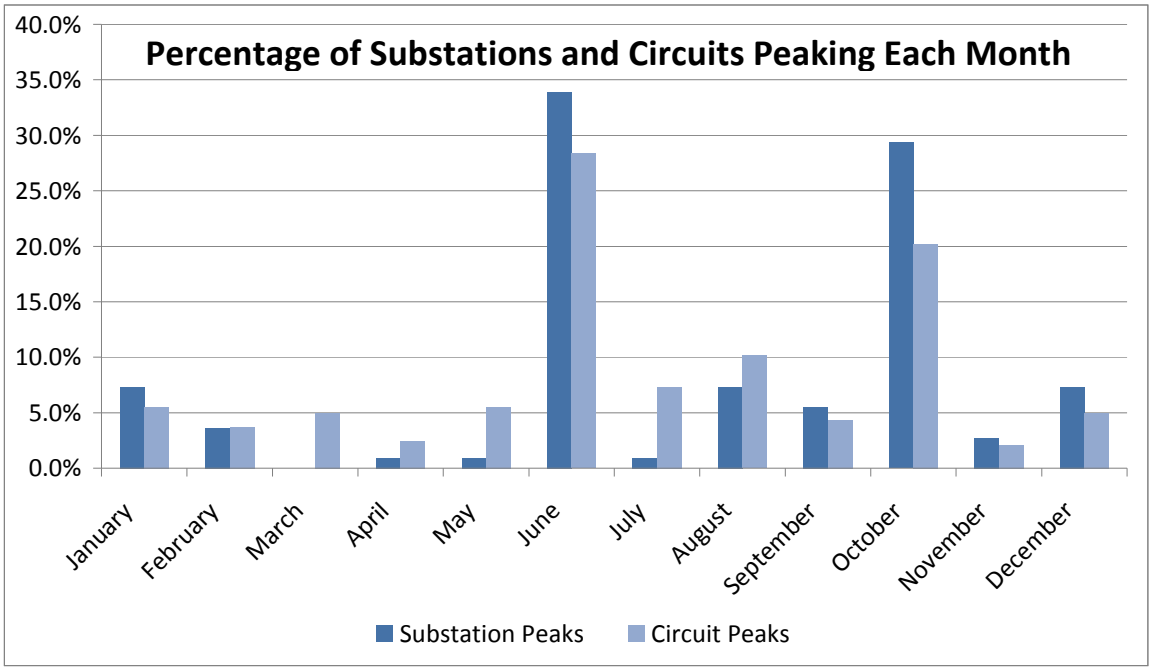
II. SDG&E EQUIPMENT LOAD VS. SYSTEM-WIDE LOAD

SDG&E designs its distribution facilities to meet the peak demand for that portion of the distribution system which serves those customers located in the specific area. This means that a substation transformer, distribution transformer, or circuit is designed to meet the peak demand at its specific location. This method of design is the standard distribution planning process, not only at SDG&E but throughout the utility industry. For example, in the first phase of this General Rate Case (A.10-12-005/006), SDG&E has requested funding to replace 2 substation transformer banks, add 8 additional substation transformer banks, and add 28 circuits at specific locations throughout the distribution system based on a site-specific peak load analysis. This

funding request is not tied to the overall coincident system peak load, but to a specific location's peak load and the resulting need for system equipment replacement.

This method of design takes into account the individual customer loads on each circuit and substation bank. Figure 1, using data for 2008, demonstrates that individual substations and circuits peak at different times of year.

Figure 1



As Figure 1 illustrates, approximately 5 percent of substations and circuits achieved their peak loads in September, when SDG&E's system typically experiences peak load. If SDG&E designed distribution facilities and equipment based on loading exhibited only during system peak events, this would lead to the selection of under-sized equipment on those substations and circuits that do not peak at the same time as the rest of the system. This would cause equipment overloads and possible equipment failures and would reduce safety and reliability of the distribution system.

Circuits and substations peak at various times due to the diversity of customer load. For example, residential circuits tend to peak on weekends and evenings, whereas commercial/industrial circuits tend to peak during business hours. And, as Figure 1 demonstrates, more than 10% of SDG&E's substations and circuits peak in December or January, likely as a result of electric heating. Some individual circuits may peak based on use by a single customer, such as a cruise ship which plugs into shore power while in port or a stadium

which holds sporting events on winter evenings. As a result, the maximum loads for these locations occur at different times than a system peak event.

Designing circuits or substations based on load coincident with system peak events would result in equipment overloads or possible failures on those substations and circuits which experience peak loads at other times. Figure 1 gives a useful illustration of the scope of unsafe and unreliable design that would occur based on the misguided use of coincident peak as a system planning principle.

III. SUMMARY AND CONCLUSION

In summary, SDG&E's distribution system is designed to meet the peak demand, with any distributed generation that does not supply physical assurance being discounted in the calculation of that peak demand, on that portion of the distribution system when that peak demand occurs. Designing the distribution system based on customer load coinciding with system peaks would erode the safe and reliable operation of the distribution system. Because SDG&E is ultimately responsible for providing safe and reliable service,[1] SDG&E does not base its distribution system design on coincident system peak.

This concludes my prepared direct testimony.

[1] *See* Cal. Pub. Util. Code § 451.

IV. STATEMENT OF QUALIFICATIONS

My name is Jose Luis Carranza, and I am the Electric Distribution Planning Manager in the Asset Management and Smart Grid Projects Department at SDG&E. My business address is 8316 Century Park Court, San Diego, CA 92123.

I have been employed by SDG&E since 1994. I have held various positions of increasing responsibility in Electric Distribution Operations, Customer Operations, Electric Regional Operations, and Asset Management and Smart Grid Projects. I assumed my current position in 2010. My present responsibilities involve leading the electric distribution planning team that is tasked with responsibility for the safe, reliable, efficient, and cost effective planning of SDG&E's electric distribution system. I direct the engineering and designing of electric distribution capacity upgrades, load studies as a result of new customers attaching to the electric distribution system, Smart Grid project support, and generation interconnection studies as a result of new distributed generation interconnecting to the electric distribution system.

I am a registered Electrical Engineer in the State of California. I received a Bachelor of Science in Applied Arts and Sciences degree in Electrical Engineering from the San Diego State University.

I have not previously testified before the California Public Utilities Commission, however, I have previously sponsored testimony as a witness in support of SDG&E's Smart Meter Program.