

## Experimental License Request

San Diego Gas and Electric Company ("SDG&E" or "Company"), pursuant to Section 5.61 of the Federal Communications Commission's ("Commission's") rules, respectfully requests authority to operate the experimental license as indicated in the attached application. In support thereof, the following information is provided.

SDG&E is the primary utility providing gas and electric service to a 2,400 square mile territory spanning San Diego County and portions of Imperial and Orange Counties in Southern California. The Company provides service to approximately 1,400,000 electric meters and 800,000 gas meters, of which some ten percent (10%) are commercial/industrial customers, while the rest are residential users.

The San Diego region is growing and so is the need for new supplies of energy. Due to San Diego's geographic position, hemmed in by the Pacific to the west and Mexico to the south, the region sits at the end of the power distribution line in California. No new power lines linking San Diego to the California energy grid have been built in 25 years. As a result, San Diego imports most of its electricity from outside the county. With electricity consumption surging at almost double the rate of population growth, the electricity supplies fall short of the region's requirements, leaving San Diego vulnerable to shortages and severe transmission disruptions, especially during times of emergency, such as frequent wildfires and earthquakes.

To fulfill San Diego's power needs, SDG&E built the Sunrise Powerlink, a 120-mile transmission line that carries renewable energy from the Imperial Valley to San Diego. The Sunrise Powerlink is an electricity superhighway that is intended strengthen San Diego's grid and ensure energy reliability for SDG&E customers. As part of the approval to construct the Sunrise Powerlink, SDG&E has also developed a fire mitigation program. The purpose of the program is to promote compliance with California law, to reduce structure damage from wildfires, and to facilitate fire-fighting efforts to ensure the safety of life and property.

SDG&E has implemented an extensive network of weather stations throughout its service territory in support of its fire mitigation effort. The Company is also working on extensive studies and modeling of atmospheric characteristics that can contribute to the dangerous Santa Ana wind conditions. SDG&E has purchased two RF based wind profilers that produce cross-sectional views of the air columns. This meteorological instrument, a "boundary layer radar wind profiler", comprises the following subsystems: an antenna subsystem consisting of a vertically-looking, high-performance, low-sidelobe antenna, whereby transmissions occur within 25 degrees or less boresight-offset from local vertical; a transmitter subsystem utilizing a solid-state commercial pulsed radar transmitter, frequency controlled by fixed crystal, capable of unmodulated and phase-modulated pulses; a specialized low-noise receiver subsystem having matched filtering capability; a signal processing subsystem performing target parameter extraction and identification, and a data processing/communication subsystem for charting, recording, and long-line transmission of results. The antenna and transmitter subsystems are designed to maximize interoperability among co-located systems.

Record heat, intense drought and powerful and desiccating Santa Ana winds has proven to be quite a combustible combination, producing dangerous wildfires in Southern California nearly all year. The Santa Ana winds blow mostly in autumn and winter, with September 1st typically being the start of fire season in California. In 2014, the winds and other conditions have been present most of 2014, severely exacerbating the wildfire situation in San Diego and the surrounding area.

The prediction and prevention of wildfires is a critical component of any fire mitigation plan that ultimately impacts the protection of life and property. The wind profilers intended to be used as part of this STA will model the winds to indicate the greatest risks for wildfires and where they are located, ensuring that fire-fighting resources will be deployed efficiently to protect public safety.

The power levels in the instant application will be 1.5 kW output power and 2.5 MW ERP for the phased array. This is put out for 30 microseconds followed by a receive interval of 90 microseconds. This mode continues for 30 seconds at which time another mode or direction may be used. For testing purposes, each wind profiler will be turned on for a day or two at each location and then continuously once permanent operations commence.

The center of the array will be operating straight in the air. It can be electronically steered to a maximum deflection of 20 degrees of center, and the antenna gain is 32 db. In no event is there a horizontal component of the emissions, as the wind profiler is not intended for land use and is only assessing the wind columns in the air. The profiler is specifically designed to operate on a non-interference basis with other RF equipment in the area. There are no known interference issues, despite the wide-spread and numerous other radars currently operating in a similar fashion. In the unlikely event harmful interference were to occur from SDG&E's use of the wind profilers, SDG&E would immediately cease all operations until such interference was resolved.

There are three specific physical locations where SDG&E will operate in the immediate two-month timeframe requested for this STA at the bands shown for testing purposes:

1. Borrego, 449 MHz: (Borrego Valley Airport) - 1820 Palm Canyon Drive, Borrego Springs, CA, 92004
2. UCSD, 915 MHz: UCSD Biology Field Station, La Jolla, CA 92093
3. Santa Ysabel, 915 MHz: 30410 Highway 78 Santa Ysabel, CA 92070

Locations 1 and 3 are extremely remote locations. SDG&E would like to be able to position the profilers at a variety of yet to be determined locations within the SDG&E service territory, which spans an approximately 5,000 square-mile service area. The operating radius listed in the application around these three locations is intended to only cover the SDG&E service territory. If needed, SDG&E will accept authorization to be site specific until a broader footprint can be approved.

Kindly refer any questions or correspondence regarding this matter to Elizabeth R. Sachs, or Katherine Patsas Nevitt of Lukas, Nace, Gutierrez & Sachs at (703) 584-8663/ [lsachs@fcclaw.com](mailto:lsachs@fcclaw.com) or (703) 584-8676/ [kpatsas@fcclaw.com](mailto:kpatsas@fcclaw.com) respectively.