

Unmanned Aerial Vehicle Program

Did you know?

The approved program aims specifically to investigate how SDG&E can integrate a small UAS into day-to-day operations to improve inspections of electric and gas lines, particularly in areas that are off-limits to helicopters or difficult to access by other means.

In June 2014, SDG&E® was granted a Special Airworthiness Certificate by the Federal Aviation Administration (FAA) to use InstantEye®, a small Unmanned Aircraft System (UAS) for the purpose of research, development and flight crew training. SDG&E is the first utility in the nation to receive clearance from the FAA to test this technology.

Overview

The unmanned aircraft system provides SDG&E another way to manage our electric and gas operations. The versatile technology can help us improve our response to emergency situations such as wild fires.

In addition, with this technology we can complete aerial inspections in remote areas that are otherwise difficult to access, and locate the cause of power outages faster.

Measuring 16 inches in diameter and weighing less than a pound, these small devices use a camera to inspect utility equipment and relay live images back to the controller. A UAS can access sections of our system that are difficult for our crews to reach and alert them if repairs are needed.



The use of a UAS, or drone, can help improve day-to-day operations and quicken our response time during emergency situations.

Benefits of UAS technology

- **Inspections** - Improved ability for SDG&E to complete aerial inspections of power lines in remote areas. Currently, linemen have to climb transmission towers to complete an inspection in these remote areas. A UAS allows us to see the tops of poles and cross arms where damage is hard to see from the ground.



- ▶ • **Safety** - When linemen climb poles we usually have a net underneath them for safety in the event they lose balance or capture any falling debris. The UAS could be used to string this net.
- **Restoration** - Allows us to respond to power outages in remote areas quicker. This can help shorten power outages since crews can complete inspections and troubleshoot affected areas quickly.
- **Situational awareness** - Improves clarity for ground crews and system operators, especially during emergency situations and extreme weather conditions.
- **Environmental protection** - Achieves noise reductions and helps us avoid the use of helicopters and other heavy machinery on roads.

Next steps

The first phase of the pilot program is to validate this new technology through rigorous testing strictly within the select airspace. The FAA and SDG&E have developed a

testing protocol with the public's privacy and safety foremost in mind. The four approved test areas in Eastern San Diego County are approximately 2.5 miles long and a half-mile wide. There are no homes or businesses in the test areas. We also received approval for a small, 100 yard diameter airspace for training purposes at a facility in San Diego.

As we continue to see a future use of UAS technology, SDG&E has an application before the FAA for approval to use this technology more broadly in the field for inspections. SDG&E inspects more than 26,000 miles of transmission and distribution power lines for safety and compliance purposes. Use of a UAS may prove to be a powerful new ally in the effort to keep equipment functioning securely, safely and reliably.

Learn more

If you have questions or would like to learn more about the UAS program, visit sdge.com/uas or email us at UAS@semprautilities.com.