

Beyond Visual Line of Sight (BVLOS)



You don't have to walk a mile in those shoes with BVLOS

Linear infrastructure projects, such as petroleum and natural gas pipelines and electric utilities, typically require inspections before, during, and/or after construction to document that an asset and surrounding area are deemed safe and compliant with the design, permits, and regulations. Post-construction inspections are required to document conditions, including following a man-made disturbance, storm event, or other severe weather or natural disaster. Historically, these inspections were limited to ground-based environmental inspectors (EIs) putting one foot in front of the other or using costly fixed-wing aircraft and helicopters, visual line of sight (VLOS) drones, or a combination of these methods. The work of an EI often poses serious health and safety risks accessing and traversing right-of-ways. Beyond Visual Line of Site (BVLOS) has the potential to change this.

Small Unmanned Aircraft Systems (sUAS), commonly referred to as drones, continue to evolve in safety-critical industries such as oil and gas, power, mining, and construction. Growing regulatory acceptance and recent technology advancements in flight payload and remote sensing have created opportunities to leverage sUAS platforms for tasks such as environmental assessment, asset inspection, field compliance monitoring, data collection, and other emerging applications.

Compliance made safer, farther, better. GES' latest offering in our sUAS program is the addition of BVLOS which allows our pilots to fly these small craft farther than the eye can see, covering more area faster and safer than an EI on foot. BVLOS is exceptionally suited for inspecting areas that are challenging to access, such as steep slopes, rugged terrain, or subject to damage from severe weather, flooding, earth movement, or man-made incidents. BVLOS enhances the ability to demonstrate asset integrity, permit compliance, and safe area conditions without exposing EIs to the hazards present along linear infrastructure corridors.

A picture is worth a thousand words. Instead of multiple inspection forms supplemented with scant digital images, the primary documentation for permit compliance using BVLOS is the abundant quality imagery collected from the drone. With BVLOS, the EI no longer traverses the right of way or the inspection area by foot or in a vehicle. The EI stays put while the drone "inspects" at speeds of up to 40 mph. The EI then confirms conditions based on review of the images collected from the drone. By covering a greater distance with the drone, fewer daily inspection forms need to be completed to document the condition and integrity of your assets and demonstrate permit compliance. Our EIs can also assist with completing client forms or create a project-specific deliverable to meet your needs.

Service Capabilities

- Construction documentation
- Earth movement (e.g., slips and slides)
- Erosion and sedimentation (E&S) control inspection
- Inadvertent return monitoring
- NPDES related inspection
- Permit required inspection
- Post precipitation inspection
- Surface and storm water (e.g., pooling, scouring)
- Third party disturbance
- Trespassing monitoring
- Vegetation health (e.g., revegetation, stressed vegetation)
- Wetland restoration

