

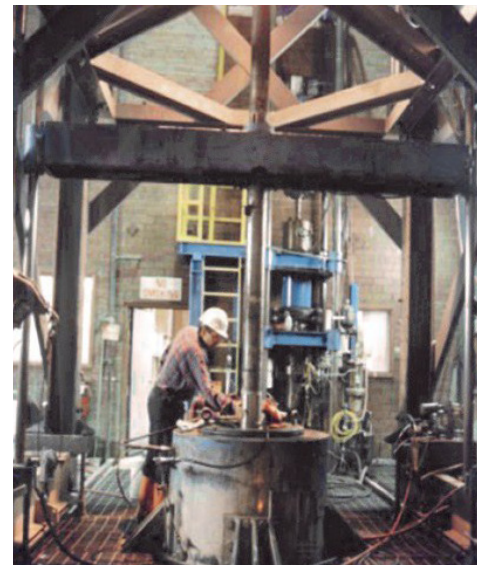
US Pat. No.: 7,329,857

Technology Readiness Level: 5

Key elements of the technology have been demonstrated in relevant environments

Sandia National Laboratories has developed a side-emitting fiber optic position sensor and method of determining an unknown position of an object by using the sensor. Non-electrical position sensors like the one developed by Sandia are desirable for use in hazardous environment, e.g., for measuring the liquid level in gasoline or jet fuel tanks. This sensor is an attractive option because it does not introduce electrical energy, is insensitive to electromagnetic interference, has very few moving parts, and could provide continuous measurements.

Large-scale rotary drilling for oil and gas, minerals, and water wells have a need for measuring the depth of drill bits and pipe segments. Measuring the length of a cable played out is often inaccurate because the cable stretches under heavy loads. There is a need for a long-range position sensor that is non-contact, simple, inexpensive, reliable, compact, non-electrical, and robust. These and other features have been achieved in the present Sandia invention.



TECHNICAL BENEFITS

- Sensor does not introduce electrical energy and is insensitive to electro-magnetic interference
- Does not require the use of florescent dopants
- Can operate over a wide range of wavelengths at a reduced cost
- Has very few moving parts
- Provides continuous measurement

INDUSTRIES & APPLICATIONS

- Oil & Gas
- Minerals
- Water Wells
- Fuel Tank Measurement
- Hazardous Environments