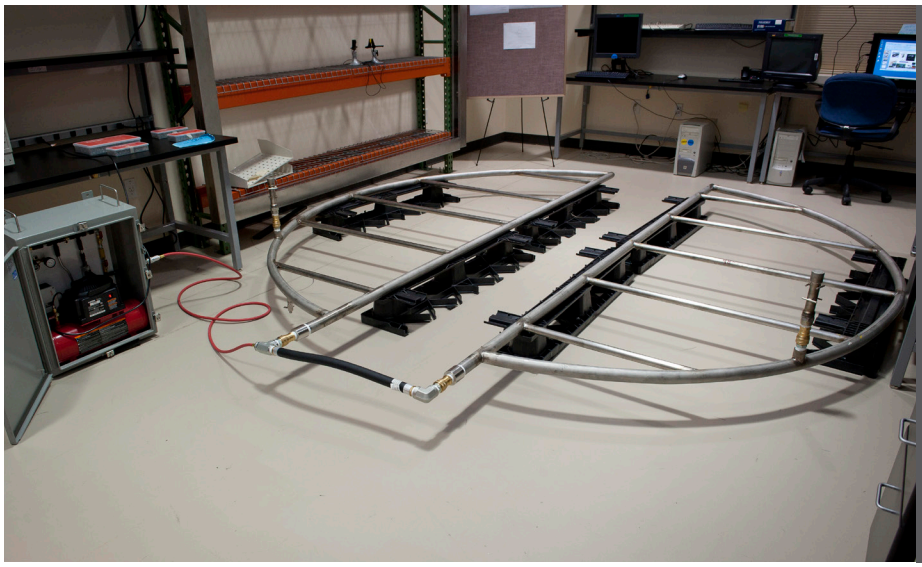
# Irradiator Security Gate



*Panoramic irradiators are commonly used to disinfect and sterilize products, such as medical supplies, pharmaceutical raw materials, cosmetic raw materials, food, food containers, and medical supplies. These irradiators typically use Cobalt 60 as a source of radiation—a material that could potentially be used to build a "dirty bomb." As a result, the Nuclear Regulatory Commission requires installation of a security system for each irradiator; however, current electronic security systems have a short life-span due to the fact that the radiation source must be stored in a pool of water. Irradiator Security Gate is a mechanical security sensor that uses pneumatic or hydraulic piping. The remotely located electronic pressure sensor detects any tampering that can result in change of internal pressure.*

SECURITY

## Features

- Reliable, mechanical security features can be located under water
- Meets NRC regulations
- Adaptable to fit almost any environment where security and durability are a concern, especially in extreme conditions, such as high radiation areas.

## Benefits

- Electronic components are located remotely from the security system, providing greater reliability and a longer life cycle
- Cost-effective and durable
- Can operate in high radiation environments

## Applications

- Security gate for high radiation areas where electronics will be damaged
- Security for large diameter underwater or above water drain lines without stopping the flow
- Security for large diameter intake lines without affecting the flow

## Patents & Awards

- U.S. Patent No. 8,850,868

## Inventors

Lee Bzorgi

## Technology Readiness Level (1–9)

8

The system has been built and tested, and it can be demonstrated.

## Partnering Opportunities

Y-12 is seeking an industry partner to fully commercialize this technology.

**If you would like more information, please contact the Office of Technology Commercialization and Partnerships:**
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