

## Active Assessment Tool for Industrial Control Systems of Critical Infrastructures

**Track Code:** 2018-ABDE-68281

**Categories:**

- Civil Engineering
- Computer Technology

**Keywords:**

- Active Monitoring
- Civil Engineering
- Computer Technology
- Integrity
- SCADA
- Trustworthiness

Supervisory control and data acquisition (SCADA) systems are used to operate, control, and protect industrial systems, such as nuclear power plants, chemical plants, water treatment facilities, etc. Access to SCADA systems is currently protected using information security measures which are designed to stop unauthorized access. With recent efforts of switching from analog to digital, new vulnerabilities could be recognized and exploited to escalate normal operational transients to a wide range of malicious scenarios.

Researchers at Purdue University have developed a software that embodies a number of algorithms to automate the detection of intrusion in SCADA systems. This technology provides a new layer of defense when perimeter defenses have been bypassed in order to protect SCADA from malicious manipulation. Instead of passive monitoring, which is continuous monitoring that can be bypassed easily, this technology employs active monitoring, which will allow early detection of intrusions.

**Advantages:**

- Active monitoring
- Early detection of intrusions
- Keeps functionality of existing control and protection systems

**Potential Applications:**

- SCADA systems
- Industrial systems

**People:**

- Abdel-Khalik, Hany S (Project leader)

**Intellectual Property:**

**Application Date:** March 25, 2019

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**Country of Filing:** United States

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