

# ANSTO

Protecting the centre of Australia's nuclear research & development expertise at ANSTO with a high security solution.



# ANSTO's vision: Our vision is to benefit all Australians and the international community through the innovative applications of nuclear science and technology and for ANSTO to be recognised as a leader in selected fields of expertise.

The Australian Nuclear Science and Technology Organisation (ANSTO) is Australia's national nuclear research and development organization and the centre of Australian nuclear expertise. Its main site is located at Lucas Heights Science and Technology Centre (LHSTC), 40km south west of Sydney's CBD. The Centre occupies 70 hectares and is surrounded by a 1.6km buffer zone.

Prescribed by the Australian Nuclear Science and Technology Organisation Act 1987, its purpose is to deliver specialised advice, scientific services and products to government, industry, academia and other research organizations.

ANSTO's nuclear infrastructure includes the OPAL (Open Pool Australian Light-water) Research Reactor. OPAL is Australia's only nuclear reactor. It provides industrial radioisotopes and facilities for neutron activation analysis, irradiation of materials and neutron radiography to service the needs of agriculture and industry, particularly with regards to electronics, the environment and resource and mineral processing.

In November 2006 OPAL reached its full operating power of 20 Mega Watts for the first time as part of the reactor's

commissioning process. ANSTO's Executive Director, Dr Ian Smith, commented "This is a very exciting time and we are confident that the success to date in the commissioning process will assure we reach full operation on the planned schedule and realize the science capabilities and radiopharmaceutical production capacity which OPAL will provide for Australia."

ANSTO's infrastructure also consists of particle accelerators, and a range of other unique research facilities including radiopharmaceutical production facilities for Australasia.

ANSTO is responsible for implementing security at LHSTC in accordance with stringent international and Australian obligations. These include Australian Government's nuclear non-proliferation Safeguards agreements, which require Australia to meet international standards in the physical protection of nuclear facilities and material.

As a result, security is layered throughout the organization and is structured around various security grades of facilities. The Gallagher security integration platform (formerly Cardax FT) is the backbone of electronic access control and intruder

alarms at ANSTO. Many of the other security measures employed on site are interfaced to the Gallagher system. At the perimeter, Gallagher controls gates, turnstiles, bollards, and boom gates. Long range readers have been implemented at the main entrance gates for convenient vehicle access.

The HIFAR protected area and facilities are surrounded by a Gallagher security electric fence system to deter and detect any would-be intruders. Future plans include introducing high level integration between Gallagher Command Centre and the Trophy FT perimeter security system for seamless configuration and monitoring of perimeter security through Gallagher Command Centre.

The OPAL Research Reactor building contains all the nuclear systems, the reactor and the service pools. It protects the reactor from all external events and also provides the structural basis for reactor containment. Made of reinforced concrete, it is seismically qualified and has a metallic grillage for protection from an aircraft crash.

In designated high security areas at ANSTO, the Australian Government's Type One intruder alarm standard applies.



# ANSTO manages high and medium security areas on the one system platform, Gallagher

UltraSec, a high security variant of the Gallagher system, meets Type One requirements for securing these areas. UltraSec provides end-to-end system security through very high levels of data encryption and monitored communications. The system significantly exceeds the Australian Government's requirement of 56 bit DES by using a minimum encryption key length of 128 bits coupled together with stronger encryption algorithms.

UltraSec also supports access control. Alongside 870 staff, access is also required for 150 research students and 1000 contractors, not to mention numerous visitors.

Having migrated from a legacy Commander based Cardax system, ANSTO recognizes that there are significant benefits of moving onto the Gallagher platform:

- > Meets the Australian SCEC Type One

security requirements for high security areas including the OPAL research reactor through UltraSec

- > Integrates both access control and intruder alarms for high and medium security areas through the system division partitioning feature
- > Achieves seamless integration with DVR systems
- > Supports backwards compatibility with their Cardax Commander II hardware, enabling them to upgrade to Gallagher Controllers while retaining their existing readers and cards
- > Interfaces with the Gallagher perimeter security system for alarm monitoring
- > Allows operators the flexibility to arm (set) disarm (unset) or isolate various alarm zones (areas of the intruder alarm system) in the field through the Gallagher Remote Arming Terminal.

An ANSTO representative says that Gallagher is much more of a global security management system. "The

comprehensive reporting options enable us to provide timely management information." The integrated PhotoID option also makes cardholder management and the production of photo ID cards much easier to control.

ANSTO utilizes the Gallagher Challenge feature in high security areas such as the OPAL Research Reactor. This feature enables the operator to check the identity of a cardholder by comparing the cardholder's image in the system against a live image from a third party CCTV/DVR system and provide or deny access.

Guard staff are also able to grant visitors access to the site via a remote link to the Gallagher system. For example, if a bus full of people comes to visit the site they can badge their access cards to a hand held reader while onboard the bus, for quick and efficient access control. As part of its plan to maintain site security, ANSTO has committed to

annual Gallagher software maintenance that enables them to elect new optional features as they are developed as well as benefit from the general improvements made to system performance.

### ACKNOWLEDGEMENTS

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### ABOUT GALLAGHER

Gallagher security systems (formerly Cardax FT) are the choice of market leaders in a diversity of sectors: Education, Communications, Mining and Resources, Government, Industry, Banking and Finance, Commerce, Transport and Health.

### CONTACT US

To find out more about the security system that companies put their faith in every day, contact your nearest Gallagher office, or visit us at [www.gallagher.co](http://www.gallagher.co).

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