Building Future Safeguards Capabilities

SYMPOSIUM
ON INTERNATIONAL SAFEGUARDS

NUMBAT: Lessons learnt from Australia's database development

The Australian Safeguards and Non-Proliferation Office (ASNO) manages Australia's compliance with safeguards obligations through a system of permits for the possession of nuclear material under Australia's safeguards legislation.

Collating and balancing reports on nuclear material held by multiple Locations Outside Facilities (LOF) locations is a resource-intensive challenge. Australia has about 110 LOF locations, holding approximately 2,500 batches of nuclear material in total, and one nuclear facility. Most LOF locations have little to no experience with safeguards and it takes about eight person-weeks each year to balance all LOF inventories and submit relevant reports to the Agency. This is a significantly greater effort than for Australia's nuclear facility, given the variability in the quality of accountancy practices across these LOF locations. Such effort is disproportionate to the very low risks of LOF nuclear inventories, but LOF management can be made less resource-intensive if more effective tools can be developed.

ASNO has embarked on a substantial project to upgrade its IT infrastructure, covering management of inventory, permits and inspections, and the tracking of Australian uranium exports under bilateral nuclear cooperation agreements. ASNO has transferred its existing NUclear Material Balance And Tracking (NUMBAT) database to a new platform and introduced a web portal for permit holders. The database directly links permit inventory and transactions to the auto-population of labelled XML reports to the Agency, making Australia one of the earliest adopters of XML formatting. The web portal enables permit holders to update permit details, and submit inventory changes to ASNO.

The new database was developed by a small dedicated database development team, using an agile scrum approach. This comprises individual sprints focused on a distinct piece of functionality. This was more effective than previous database upgrades that used a waterfall approach. After individual sprints, ASNO did user-acceptance testing of live scenarios which then informed the design of subsequent functionalities. ASNO continues to work with the database team to complete all functionality by 2019. This paper will share lessons ASNO has learnt with this database upgrade project –what worked, and what didn't.

Which "Key Question" does your Abstract address?

SGI2.1

Which alternative "Key Question" does your Abstract address? (if any)

SGI2.2

Topics

SGI2

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