

This abstract is a proposed Submarine Signature Measurement Plan for the Royal Australian Navy (RAN) under the AUKUS Trilateral Agreement and key to maintaining the Stealth Advantage of the US Virginia Class Submarines and guide to future measurement requirements necessary to verify the stealth objective of the new AUKUS SSN (SSNA) to be built in the 2030's.

This is based on an incremental plan based on the staging of Virginia class submarine in Western Australia, Virginia Class signature assessment requirements and allows Australia to incrementally expand capability without the need to reconstruct past phases. As such, Australia will be able to begin this effort in FY25 and support the arrival of the early Virginia class submarines, support the Virginia Class submarine continuous self-monitoring, required regular machinery monitoring as part of the failure analysis and maintenance programs, pre-deployment noise surveys, and periodically measured and re-calibrated UEM systems.

When the RAN takes ownership of the Virginia Class submarines the objective for them to have domestic capability to acquire and certify all facets of the Virginia signature data, analyze, maintain, and secure such information. These measure capabilities will enable the RAN national defense objectives and strategic maritime security goals, furthermore this plan will allow the US to have a Western capability without the need to return to capability near the US, providing a stop-gap capability to support Virginia Operations out of Western Australia and provides a scaled acoustic/magnetic/electromagnetic measurement facility with matched In-Service Engineering and technical support to the contemporary US and UK Sites