

Risk of diesel generator failure on nuclear submarines reduced



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Don Beale

engines, with advice provided by the UK Warship Support Agency's Marine Propulsion Systems Diesel Section (MPS 213); our diesel engine specialists."

"Nuclear submarines by their nature do not use their diesel generators to the same extent as conventionally propelled vessels, nor do they use the diesel generators for the same length of time between shutdowns. Therefore, a requirement exists on nuclear powered submarines for the diesel generators to remain idle for considerable lengths of time and yet be immediately available when required with a high-reliability factor. Machine Care Plus® gives the submarine operating authorities assurance that the risk of unknown operating problems with the diesel generators is reduced to the lowest practical level".

"We have also been able to reduce the number of lubricating oil changes on our submarine diesel engines, moving from a calendar programme to a condition based programme with considerable savings. The main cost savings are in the engine lubricating oil costs and the maintenance time involved in changing the oil. In addition to this, the time and costs for disposal of the used oils, new oil filters and other associated maintenance items are considerably reduced".

The Submarine Support Integrated Project Team (Sub IPT), part of the UK Warship Support Agency, is using the AES Machine Care Plus® service to support its ongoing revision of Royal Navy submarine diesel engine maintenance schedules. The results have been impressive and Don Beale of the Sub IPT (Design Authority Propulsion) explains the importance of this condition based asset management service and some of the benefits that have been achieved:

"We have an ongoing programme of introducing Reliability Centred Maintenance and Machine Care Plus® into the maintenance of our submarine diesel

"We have also been able to reduce the number of lubricating oil changes."



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