

The Underwater Sound Reference Division – A National Resource for the Underwater Acoustics Community

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Abstract: The Underwater Sound Reference Division (USRD) is the only organization sanctioned by the National Institute of Standards and Technology (NIST) to provide traceable underwater acoustic transducer and hydrophone calibrations for the U.S. Navy, industry, research, and education. Initially conceived as a result of the successful operation of German U-boats leading up to WWII, the USRD continues to maintain a principal role in the numerous and varied facets of underwater acoustic measurements, calibrations and testing. As a government organization, the USRD mission is to ensure the accuracy of acoustic measurements through our USRD facilities, measurement methodology, and transducer standards. The USRD provides access to measurement facilities and a wide range of calibrated transducer types within the U.S. and internationally. The

USRD maintains a complex of six measurement facilities that provide a broad range of frequency, temperature, and hydrostatic pressures. Also maintained is an inventory of calibrated underwater transducers and reference standards that can be used to verify acoustic measurements at different facilities. Ongoing research in underwater acoustic measurement metrology results in added facilities for specific applications and enhanced capabilities to existing facilities. Reference transducers and acoustic sources are updated and modernized as new technologies emerge. Moved from its initial location in Orlando, FL, it is currently located in Newport, RI and continues to accomplish its original mission to provide measurement facilities, measurement methodology research, technical consulting, and calibrated transducer standards within the U.S. and overseas.