Oak Ridge National Laboratory—Providing Science, Technology, and Policy Solutions to Nuclear Security Challenges

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Abstract. The Global Nuclear Security Technology Division (GNSTD) at Oak Ridge National Laboratory (ORNL) performs research and development in the areas of nuclear nonproliferation, safeguards, threat reduction, transportation security, and advanced radiation detection methods. ORNL has unique facilities for tackling these challenging problems, including a safeguards laboratory for the demonstration of advance safeguards techniques and technologies, laboratories for the development and testing of advanced radiation detectors, and portable glove box laboratories. The division has highly-skilled, experienced, and internationally-recognized experts in nonproliferation and safeguards technology and policy. GNSTD deploys personnel worldwide in addressing important national and international challenges. This presentation provides an overview of ORNL, GNSTD, and gives insight into internship programs at ORNL.

Bio. Alan Icenhour is the Director of the Global Nuclear Security Technology Division at the Oak Ridge National Laboratory (ORNL). The Division performs research and development in the areas of nuclear nonproliferation, safeguards, threat reduction, transportation security, and advanced radiation detection methods. In addition to technology development and deployment, the Division’s staff, which includes internationally-recognized experts, is closely involved in policy efforts to detect, prevent, and reverse the proliferation of weapons of mass destruction (WMD) and radiological dispersal devices (RDD). Dr. Icenhour joined ORNL in 1990, and he has more than 24 years of experience with the nuclear fuel cycle, ranging from reactor operations to radiochemical research. His research has focused on the conversion of $^{233}\text{U}$ to a stable form for long-term storage, studies of the effects of radiation on materials, $^{238}\text{Pu}$ production, and the development of advanced nuclear fuels. He completed a 20-month special assignment in Washington, D.C. as a Senior Technical Advisor to the Proliferation Detection Program within the Office of Nonproliferation Research and Development (NA-22) of the National
Nuclear Security Administration. Before joining ORNL, Alan served as a commissioned officer in the U.S. Navy on a nuclear powered submarine. After leaving active duty, he continued his service with the Navy as an active reservist, retiring in August 2010 at the rank of Captain (O-6). He received his B.S. degree in Nuclear Engineering from North Carolina State University, and his M.S. and Ph.D. degrees in Nuclear Engineering from The University of Tennessee.