Depleted Uranium Workshop

This 3-day course will provide an introduction to depleted uranium. Topics covered will include: health physics fundamentals for uranium (U) and depleted uranium (DU), including atomic structure, isotopes of U, radiations emitted, radioactive decay mechanisms, half-life and radioactive decay equation, dose limits, inhalation classes, DACs and DAC-hours, biological effects of radiation, and radiation risk; radiological and chemical properties of U and DU; specific activity; brief overview of the uranium fuel cycle, including U mining and milling, conversion, enrichment methods, fuel fabrication, and HLW storage, disposal and reprocessing, and methods of DU production for industry and the military; uses of DU in industry and in conflicts (e.g. the Gulf Wars and the Balkans); external and internal exposure to DU and their effects; DU exposure case studies (Department of Defense, Capstone DU Aerosol Report, Sandia National Laboratory, and others); guidance on exposure to U and DU; monitoring and treatment of individuals exposed to DU; and cleanup of DU-contaminated sites. Examples of specific activity, radioactive decay, and internal dose calculations for soldiers in tanks and vehicles struck by DU armor-piercing rounds will be discussed. Calculations of DU uptake in the kidneys, given a DU intake into the body, will be performed. Information on the current state of evaluation of DU-exposed veterans by the Baltimore VA Hospital, as provided in annual reports to Congress, will be provided. Comprehensive references, glossary, and examples OSHA/NIOSH U hazards information sheets will be provided as well. Students should bring a scientific calculator to class.

This short course will help you ….

- Strengthen your understanding of relevant health physics fundamentals in order to achieve a proper perspective on radiological risks from uranium and depleted uranium (DU)
- Gain a thorough understanding of radiological and chemical properties of uranium and DU, including radiological and chemical limits and guidelines for DU intake
- Learn to perform DU specific activity calculations and calculations of DU uptake in the kidneys, given an estimated DU intake into the body
- Improve your knowledge of the U fuel cycle from mining to disposal, including the origin of DU and how it is produced for industry and the military
- Discuss uses of DU in industry and the military, with particular emphasis on use of DU munitions in the Gulf Wars and in the Balkans
- Understand exposure pathways for DU for US veterans and civilian populations in the vicinity of conflicts and briefly discuss biokinetic models for DU
- Discuss important studies on potential health effects of DU, such as those published by the Department of Defense (including the Capstone DU Aerosol Study), World Health Organization, Sandia National Laboratory, NATO, and the Baltimore VA Hospital
- Perform dose calculations for soldiers exposed to DU aerosols in Abrams tanks and Bradley Fighting Vehicles struck by DU armor-piercing rounds
- Discuss guidance on exposure to DU, monitoring and treatment of DU-exposed persons, and cleanup of DU-contaminated sites

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Contact TMS for further details.

The American Academy of Health Physics (AAHP) has awarded this course 20 continuing education credits.
Assigned ID Number: 2011-00-009

For further information or assistance, please contact:

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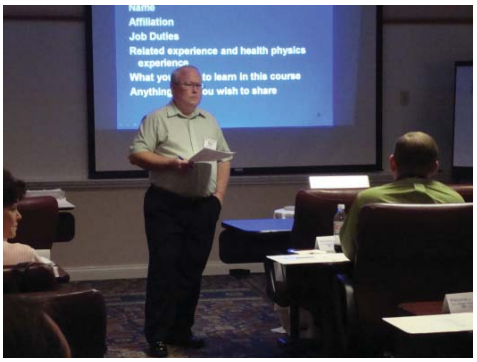

DR. RODICAN P. REED has over 30 years of experience in health physics. From 1992 to 2007, he was a Senior Health Physicist at the U.S. Nuclear Regulatory Commission (NRC) Technical Training Center. At NRC, he provided health physics training to NRC inspectors, Agreement State inspectors, and other Federal agencies. He was responsible for the uranium fuel cycle technology training curriculum, including uranium mining and milling, health physics, nuclear criticality safety, fire protection, integrated safety analyses (ISA's), and uranium enrichment technologies. He trained fuel facility inspectors and license reviewers as part of the inspector qualification program. He briefed NRC Commissioners, the Office of the Inspector General (OIG), the Atomic Safety and Licensing Board Panel (ASLBP), and the news media, in radiation protection and uranium fuel cycle technology. He developed post-graduate training in radiation protection for the International Atomic Energy Agency (IAEA), which is now in use world-wide.

Dr. Reed is certified by the American Board of Health Physics (ABHP) and is a member of the American Academy of Health Physics (AAHP). He is also a past member of the HPS Continuing Education Committee and the Professional Development Committee of the AAHP. He has published papers in health physics, made numerous technical presentations, and prepared input to environmental impact statements (EIS's) for TVA's nuclear power plants and proposed coal gasification facility. He has a B.S. in Physics , an M.S. in Nuclear Engineering , and a Ph. D. in Health Physics , all from Georgia Tech.

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"This course introduced me to some regulations that I wasn't aware existed."

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"This has been the best course I have ever had the pleasure of taken.