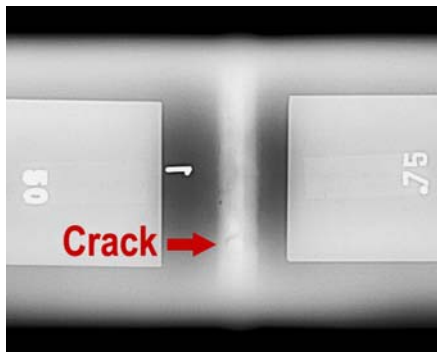


Newport News Hosts Computed Radiography Workshop; Attendees Get Hands-On Experience

The Digital Radiography project funded by the Center for Naval Shipbuilding Technology and led by Northrop Grumman Newport News (NGNN) recently completed a two-day workshop where the project's groundbreaking accomplishments (and some setbacks) were reviewed and demonstrated to an invitation only group of shipyard, Navy, and technical laboratory participants. The workshop marked the end of the first phase of the two-year effort to prove the effectiveness of digital radiography as a replacement to current film-based radiography for inspecting welds and castings in Naval shipbuilding and ship repair. The workshop drew representatives from NAVSEA 08 Technical Laboratories, Naval Surface Warfare Center - Carderock, Naval shipyards and Industrial Maintenance Facilities, Northrop Grumman Ship Systems, General Dynamics (both Electric Boat and Bath Iron Works), SUPSHIP Newport News and SUPSHIP Bath.



Digital Radiograph showing crack and incomplete weld fusion

The workshop afforded the participants the opportunity to develop a common understanding of computed radiography (CR) and CR terminology. Digital radiography is imaging using a digital detector to capture the image rather than an analog device. CR is one form of digital radiography that uses a phosphor imaging plate to capture the image. The fundamental physics of the process were discussed, as were its advantages and disadvantages when compared with conventional film system processes. Participants then developed an understanding of how a typical system works, including: the imaging plate exposure process, imaging plate scanning, calibration/reference checks for the imaging plate reader unit, and imaging plate reader unit programming. They were guided through workstation review of CR images and calibration procedures for the electronic displays. Digital

imaging processing techniques and limitations were also taught.

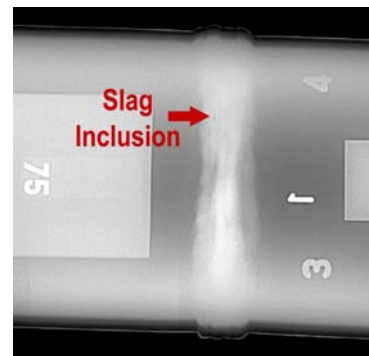
Participants gained hands-on experience with an industrial CR system and reviewed potential tools and methods for qualifying CR systems. They were each given the opportunity to scan an exposed image plate, process the image retrieved, and compare that processed digital image to the analog film image of the same radiography shot. The overall consensus of the participants was that the CR image showed great potential and that "standard" processing techniques must be developed for implementation.

Deliverables of the Digital Radiography project are draft Naval Standards for computed radiography inspections, computed radiography system qualifications, and computed radiography personnel qualification and certifications. These preliminary draft standards were distributed to the workshop participants for review and comment.

Due to the overwhelming positive feedback from workshop participants and the value added to Navy and industry, CNST intends to continue the workshop series on a quarterly basis as part of the Digital Radiography project.

About CNST

CNST is a Navy ManTech Center of Excellence, chartered by the Office of Naval Research (ONR) to identify, develop and deploy, in U.S. shipyards, advanced manufacturing technologies that will reduce the cost and time to build and repair Navy ships. For additional information on this and other CNST projects, please visit www.cnst.us.



Digital Radiograph showing slag inclusion.