

2011 Lock Maintenance Workshop

Regional Navigation Design Team (RNDT)

Status and Initiatives of the RNDT

February 17, 2011

By
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Regional Navigation Design Team (RNDT)



Regional Navigation Design Team (RNDT)

- A Network of Inland Navigation Design Engineers across the Corps spanning across technical functional areas
- The Team's purpose is to assure that innovative design and construction technologies, applicable to the modernization of the Nation's in-land navigation system, are adequately and efficiently evaluated in the interest of achieving modernization at lowest practical cost and schedule.

RNDT

- Operates on Cooperative Basis – no central funding or mandatory drivers
- Roots in 1994 by an LRD initiative
- About 20 meetings to date – Project Updates, Lessons Learned (actively seeking), best practices, sharing knowledge, support design with emphasis on innovation.
 - ▶ Last RNDT mtg Sep 15-16, 2010 at Olmsted
 - ▶ Next RNDT mtg Feb 23-24, 2011 at New Orleans – currently have 30 people, guests welcome
- Participation Growth LRD, MVD, HQ, ERDC, NWD, SWD, SAD
- Participation Outreach – PIANC Chair INCOM, Panama Canal, Industry, Nav PCX, Construction, Ops, ERDC, IMTS.
- Major Strength – team works mainly virtually
 - ▶ Populating PDTs, Expert Consultation, Reviews, Project Information Sharing

RNDT

- Steve Stoltz, LRP – Chairman
- Fred Joers, MVR – Vice Chairman
(rotating Chair every two years)



RNDT – next Mtg

- Feb 23-24, 2011 at New Orleans District Office
- Site Visit to Western Closure
- Presentations from team on IHNC Lock, Olmsted Dam, Chickamauga Lock, Soo Locks, Lock 25 Roller Gate 3D Modeling, Sector Gates Chicago, LIDAR ERDC, Valve Design ERDC, PT Rods, HSS, and etc.

RNDT Activities

- Hydraulic Steel Structure (HSS) workshop, August 2010
- HSS Training 101 April 2011, St. Louis (Encourage Ops attend)
- M/E – leveraging LRD and MVD PIANC workgroup on
 - Lessons Learned for knowledge sharing
- Member of the Navigation R&D 2011 Workshop Steering Committee

RNDT Activities

- Webinars with Inland Marine Transportation System (IMTS)
 - ▶ “Self-Lubricating Bearing & Bushing lessons learned and best practices”, Nov 1, 2010.
 - ▶ Future - HSS Introduction, Cost and Schedule Risk Analysis, PT Rods, PIANC M/E Lesson Learned, other topics welcome.
- Website on Navigation Network (next slide)



Communities of Practice

- [USACE CoPs](#)
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Regional Navigation Design Team (RNDT)

The Regional Navigation Design Team (RNDT) is a network of Inland Navigation Design Engineers across the Corps. The team operates on a cooperative basis taking advantage of combined experiences, lessons learned, best practices, and sharing knowledge in the navigation area spanning across technical functional areas. The Team's purpose is to assure that innovative design and construction technologies, applicable to the modernization of the Nation's in-land navigation system, are adequately and efficiently evaluated in the interest of achieving modernization at lowest practical cost and schedule. The team mainly operates virtually populating design teams, expert consultation, reviews, and project information sharing. The team has expanded throughout history to address pressing navigation problems facing industry as a whole and has taken on a strategic role for the Navigation Business Line (Navigation COP) supporting the Inland Marine Transportation System (IMTS). The team outreach includes HQUSACE PIANC, Nav PCX, industry, Construction, Operations, and ERDC.

- [Meeting Minutes](#)
- Team Meeting Presentations
 - [2010 - September](#)
 - [2010 - February](#)
 - [2008](#)
 - [2006](#)
 - [2004](#)
- Conferences/Workshops
 - [1 Nov 2010 - IMTS On-line Seminar Joint with Engineering \(RNDT\) on Greaseless Bushings](#)

<http://operations.usace.army.mil/nav/rndt.cfm?Option=Main>

RNDT Changes

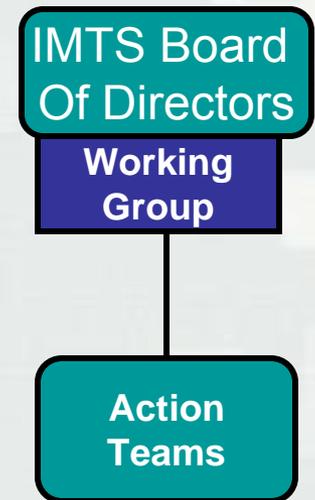
IMTS/Engineering Collaborative Efforts

Background:

- IMTS reliability and resiliency requires collaborative efforts between Engineering and Operations. Evolution of the IMTS Maintenance Standards and the IMTS Capital Projects Business Model led to identification of navigation lock components and systems for a joint IMTS and Engineering action team. The IMTS team linked up with the Regional Navigation Design Team (RNDT) to discuss development of design standards to increase use of common components in new locks and major rehabilitations.

IMTS Structure and Process

- IMTS Board of Directors (BOD)
 - Chaired by DCG for Civil and Emergency Ops
 - Membership: Division Commanders and HQUSACE Chief of Ops
 - Approves new standards/policies for USACE-wide implementation
- Working Group
 - Cross section of skills from across USACE
- Action Teams
 - Composed of experts with hands-on experience (lockmasters, Ops Managers, etc.)
 - Develop draft outputs for review by workforce and industry, review and approval by Board
 - Implementation of new standards/policies IMTS- wide by Board of Directors



Key: an open process with participation by workforce and industry

Strategic View

IMTS Umbrella Strategy for Major Initiatives

- Objective:
 - Incorporate broader inland navigation initiatives under IMTS umbrella
 - A single, well-coordinated approach for decision-making by IMTS BoD
- Approach
 - Phase in the integration of broader inland navigation initiatives as opportunities arise
 - Three Immediate candidates identified



IMTS & RNDDT Joint Action Teams

- Three teams started:
 - ▶ IMTS National Interlock Standard – Field Survey ready for distribution
 - ▶ IMTS National Miter Gate Anchorage Inspection Standard – Fred Joers (MVR) lead, LRD, SAD, MVD team. SOW and estimate completed. Funding needed.
 - ▶ Standardized Designs

Miter Gate Anchorage Inspection Standard

Fred Joers, MVR

Phil Sauser, MVP

Jerry Casto, LRH

Allen Davis, SAM

Others?

Miter Gate Anchorage Inspection Standard

Next Steps

- Scope of Work and Cost Estimate - completed
- Obtain funding
- Review LRD and SAD Anchorage Investigations
- Draft inspection routine, frequency, testing document
- Distribute Draft to IMTS thru MSC proponents
- Comment Period
- Finalize
- Potentially Coordinate with OCA team for evaluation against this standard.
- Adaptive Management – field feedback loop thru MSCs.

Interlock Standard Core Team

Jeff Stamper, MVS

Tom Hood, LRN/HQ

John Cheek, LRD

Aaron Mcgee, SWL

Andy Schimpf, MVS

Interlock Standard

Next Steps

- In March (?), Canvass applicable locks on what it takes to meet the standard
 - we meet it
 - we need \$\$
 - we are no where near this
- Get input back to IMTS-assigned MSC proponent
- MSC get input to Interlock Team
- Draft OPORD for IMTS approval
- Finalize OPORD and distribute
- Districts prioritize work for normal budgeting cycle

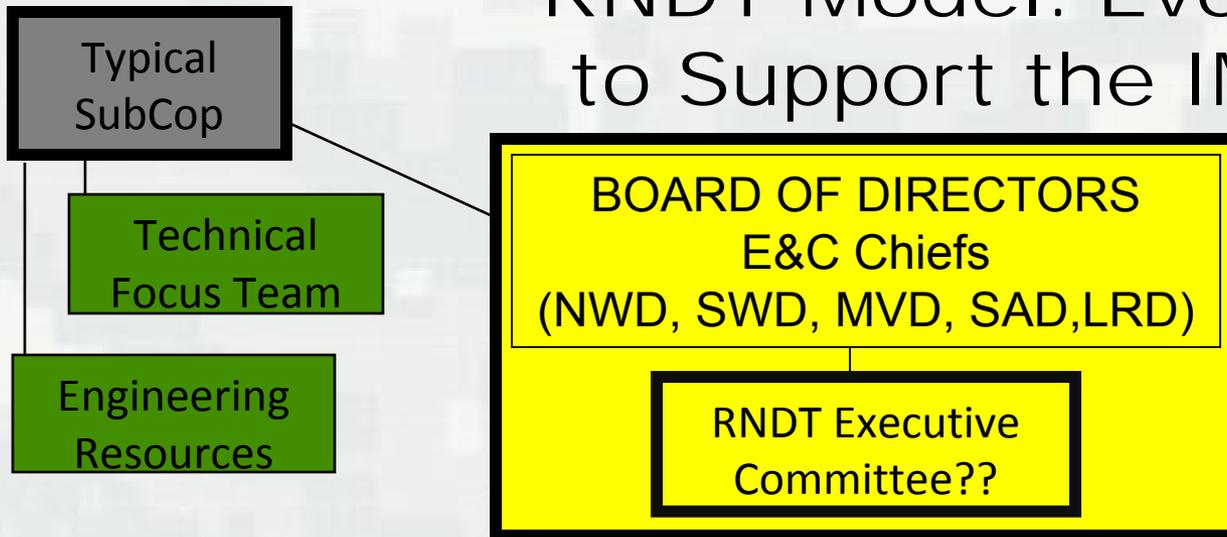
Standardized Designs

- RNDT look at 26 CPBM projects for standardization opportunities
- Explore OCA list for standardization opportunities
- Build on M/E PIANC Work Group – standard designs, standard methods, O&M reduction, create a culture
- Increase component reliability, reduce failure consequences, contribute to failure rate data, etc
- Need Funding to pursue further

Thank You

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RNDT Model: Evolving to Support the IMTS



- IMTS Message Briefed to RNDT – 27 Attendees, 4 MSC, ERDC, HQ
- BoD Almost Done, IMTS Message Briefed to 50+:
 - SAD Doug Otto, MVD Denny Lundberg and Walter Baummy, SWD John Balgavy, NAD John Bianco, LRD and NWD Pending.
 - Possible Roles – RNDT guidance, CPBM Process Changes, Hedgehog Analysis, IMTS support for future initiatives