

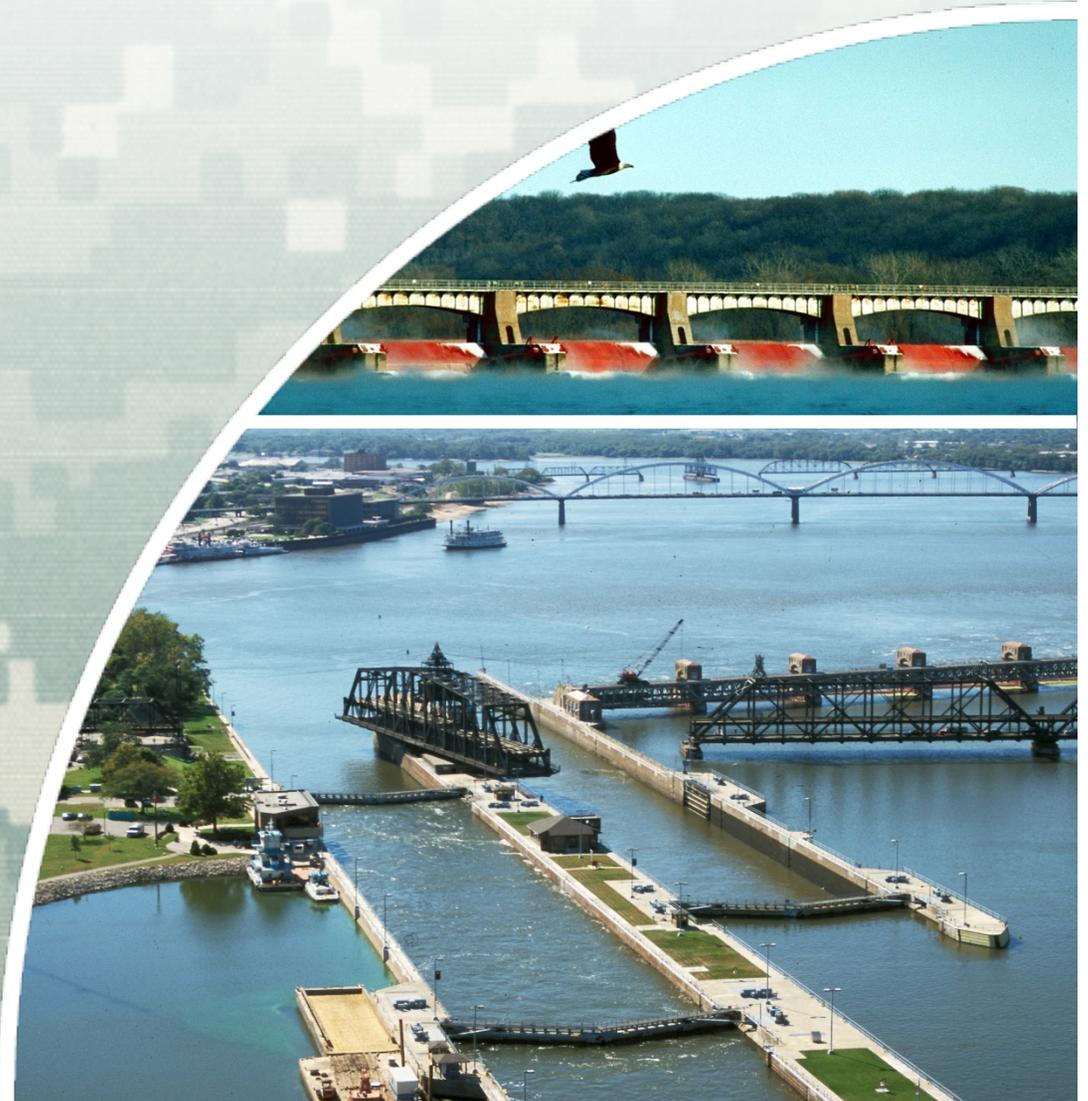
INLAND NAVIGATION DESIGN CENTER

Lock Maintenance Workshop

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Director, INDC

Andy Harkness P.E.
Chief, RMC Eastern Division
Deputy Director, INDC

9 February 2016



AGENDA

- **Background**
- **Summary of Mission**
- **Staffing Update**
- **FY15 Program**
- **Navigation Program Future**
- **Community of Practice**

Background

- INDC-MCX established in Jan 2013, MVR lead District, and LRP second location.
- Director and Deputy Director assigned as collateral duties. Permanent staff consists of 4 TM's.
- Draft Engineer Regulation and ECB published.
- Reimbursable work: \$400K in FY13, \$800K in FY14, \$2-3 Million projected for FY15. Performed work in SWD, NWD, NAD, MVD and LRD.



INDC MISSION

Provide engineering, design, and review services for studies, new locks, navigation dams, major rehabilitation of inland navigation locks and dams, and significant inland navigation lock and dam O&M projects.



Goal 1. Develop, Maintain, and Strengthen Technical Competency.

Objectives:

- Lead a coordinated effort to develop, maintain, and strengthen technical competency within the engineering and design community for inland navigation – build an Inland Navigation Engineering Community of Practice.
- Collaborate and coordinate with national and international interests, such as PIANC, in the development of engineering standards and transfer of knowledge for inland navigation projects.
- Support research and update relevant USACE guidance.



Goal 2. Deliver Quality Products and Services.

Objectives:

- Collaborate with inland navigation design customers to ensure delivery of products and services that meet expectations.
- Conduct rigorous, independent and quality reviews in accordance with USACE regulations, policy and guidance.
- Maximize the use of standardized designs.
- Implement risk-informed approaches for design and decision making frameworks.
- Provide dedicated engineering and design (E&D) services to customers and stakeholders through the Center's leadership, subject matter experts (SMEs), standardized processes, etc.
- Provide engineering support to USACE infrastructure strategy, management, and maintenance efforts.



Roles and Responsibilities

- Lead Navigation Engineering CoP
- Design and Design Oversight
 - ▶ Category 1-New locks, navigation dams, and major rehab
 - ▶ Category 2-Review or design of select O&M Projects
 - ▶ Category 3-Situational awareness of routine maintenance
- Execution
 - ▶ Home District has PM and other functional responsibilities
 - ▶ INDC Engineer Lead Responsibilities
 - ▶ Resources will primarily come from MVD/LRD; National Corps resources will be engaged for surge or if specialties required.
 - ▶ A/E resources engaged for specialties and surge capability.



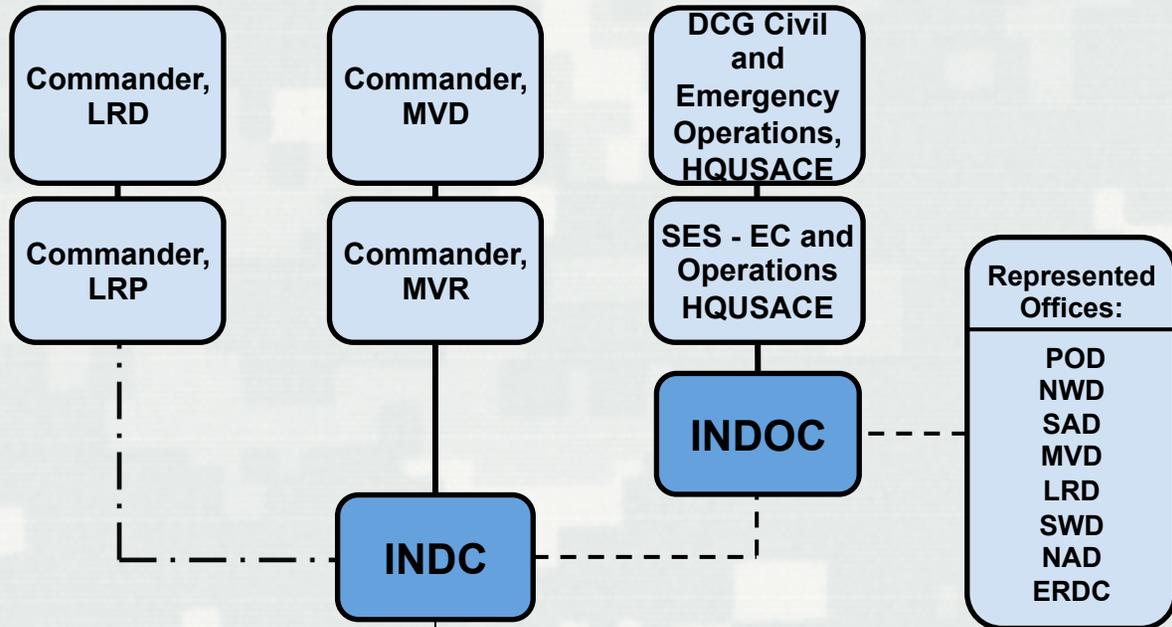
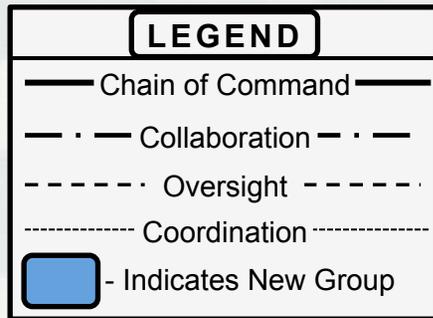
Roles and Responsibilities

- Inland Navigation Policy
- Knowledge Management
- Lead Engineer
- Engr. Support to Infrastructure Management Strategy
- Design Guidance
- Reviews
- Technical Skill Development
- International Support
- Research and Development



Inland Navigation Design Center

Command and Control,
Collaboration, and Coordination



- USACE Organizations**
- IMTS
 - ERDC
 - PCXIN
 - COST MCX
 - Welding and Metallurgy TCX
 - CoP Leaders
 - RMC

- External Organizations**
- PIANC
 - IWUB
 - Universities
 - Non-Government Organizations



Staffing Update

- **4 Full time Technical Managers(TM) on board**

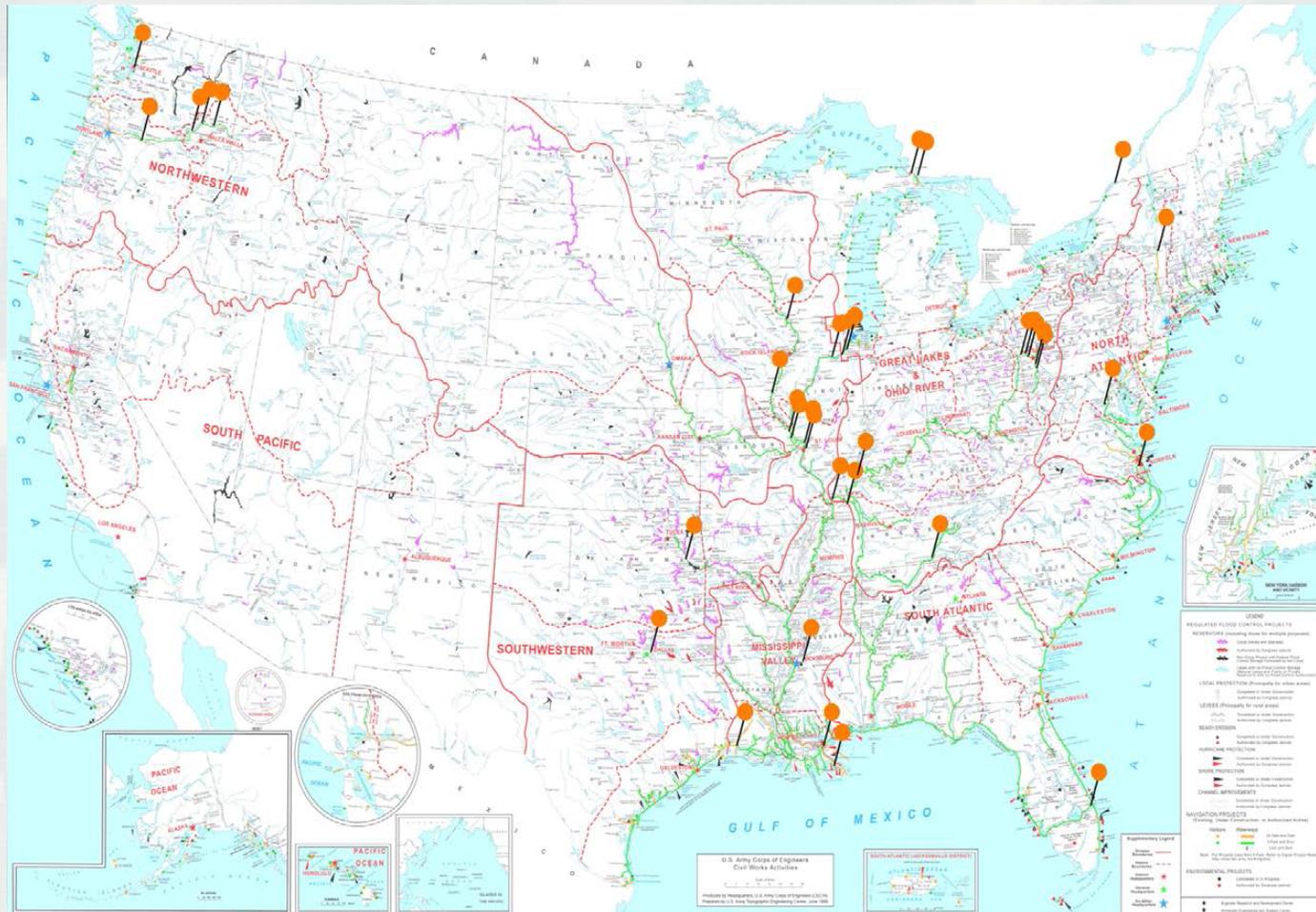
- **Fred Joers, MVR**
- **Jeff Stamper, MVS**
- **Paul Surace, LRP**
- **Larry Dalton, LRL**

District	TM
SAD	Dalton
LRD	Dalton
MVD	Joers
SWD	Joers
NWD	Stamper
POD	Stamper
SPD	Surace
NAD	Surace

Staffing Update

- **Recommendation for Director/Deputy Director to go full time permanent has been approved.**
- **Lundberg and Harkness temporarily detailed to full time acting Director/Deputy Director**
- **Permanent positions filled by March 2016**

National Program



FY 15 Program

- Great Lakes and Mississippi River Interbasin (Transfer) Study(GLMRIS)- Brandon Road
- NAN Troy Lock Miter Gate Design
- NWW Dalles- ATR of P&S New DS Gate and Rpr of US Gate
- NWP Lower Monumental L&D Downstream Features/ Appurtenances- ATR
- NWP Ice Harbor L&D Downstream Features/Facilities -ATR
- NWP Little Goose L&D Multiple Options Contract- ATR
- LRL/PCX-IN JT Meyer Dam – ATR of engineering appendix for RER, late FY 15/early FY 16; potential for INDC to provide P&S support
- LRN Kentucky Lock Downstream Cofferdam – P&S Support/ATR
- Anchor Rod Testing IDIQ Contract – INDC to Partner with ERDC
- NAO Great Bridge Lock Butterfly Valve ATR
- LRP Montgomery Lock BH Recess Design
- Ohio River Dams Study - ATR

FY 15 Program

- Nationwide Service Contract Assistance- HSS inspections for structures
- LD 18 MRR
- Soo Lock MRR
- ERDC Polymeric Testing on Dam Gate Slides – INDC tech support
- SWT Webbers Falls Tailrace Training Wall Repair – Design
- LRN Chickamauga Cofferdam Stability – ATR
- MVP/MVR Miter Gate L/Dams 12, 15, 15a and 2 – Design Support
- Lock 7 Guidewall Repair-ATR
- Contract for Trunnion Anchor Rod Testing for ERDC
- ECB on Trunnion Anchor Rod Testing for ERDC
- \$100 K GUMP funds received for Barge Impact ETL and EM 2106 Structural Design of Precast & Pre-stressed Hydraulic Concrete.



FY16 Program Development

- National Scope
- Working with MSCs on INDC engagement
- Long-term goals to standardize business practices
- Full integration by FY18
- Walk-in work anticipated.

NAVIGATION INFRASTRUCTURE PROGRAM CHANGES

- Olmsted scheduled for FY20 completion (FY18 major Construction). Funding will be available for other projects.
- WRRDA 14 cost share formula change for Olmsted will result in building a surplus in the Trust Fund.
- Increase tax rate by 45% from \$0.20/gal to \$0.29/gal.
- Capital Investment Strategy schedule for completion in 3rd quarter FY15.

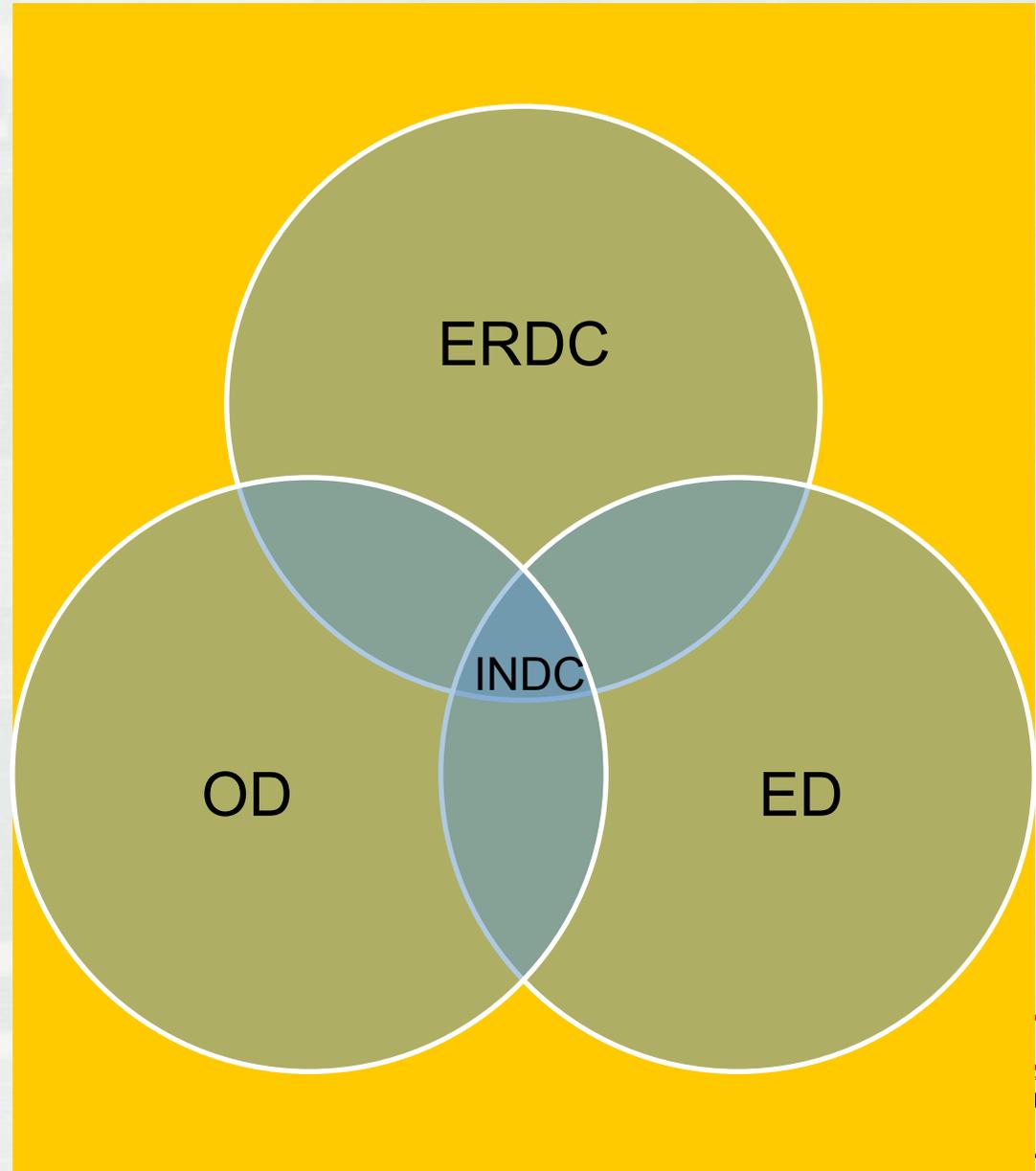
Community of Practice

- Inland Navigation Engineering and Design has been designated a CoP under Engineering and Construction.
- Director has been designated as the CoP lead.
- Setting up page on TEN for knowledge management and information transfer.
- Hosting workshops to train workforce.
- Participating in PIANC activities with Netherlands and other countries in knowledge sharing and technology transfer.
- Educational webinars



INDC CoP

INDC objective to work with ERDC, OD, ED to help further the interaction and communication for design improvements and standardization in navigation infrastructure



INDCoP Membership

- Individuals whom have an occasional interest in navigation design.
- Individuals whom are on a career track or have the potential to become a navigation design expert.
- Individuals whom are regularly engaged in production of inland navigation design projects across any discipline.
- Individuals whom are considered experts in a specialty field.

INDCOP RESUME REVIEW PROCESS

- MVD resumes reviewed by Lundberg, Harkness, Stamper, and Joers
- LRD resumes reviewed by Lundberg, Harkness, Dalton and Surace.
- NWD, SAD, and SWD reviewed by Lundberg, Harkness and TM's assigned.
- Independent review performed by Landwehr for H&H, Schwanz for Geotech, and Dunn for Structures.
- LRD also independent reviewing the big 3.

Table after reviews

Discipline	General Interest	Engr in Training	Design Engineers	ATR Staff	Speciality
Architect	0	0	0	0	0
Civil	50	26	12	9	8
Construction	26	1	0	0	0
Cost	4	4	9	8	6
Electrical	5	6	19	16	9
Environmental	6	0	0	0	0
Geologist	10	4	10	10	6
Geotech	26	17	19	16	11
Hydraulic	31	33	17	18	11
Hydrology	1	4	1	1	0
Mechanical	9	9	20	19	8
Structural	39	43	43	39	16
Totals	207	147	150	136	75

How Can I be Involved?

- **INDC is a regional strategic priority, provide resources when needed.**
- **Join inland navigation engineering CoP.**
- **Register in CERCAP.**
- **Participate in educational webinars or provide suggestions for webinar topics.**
- **Support principles of INDC.**
 - ▶ **Develop and maintain technical competency**
 - ▶ **Improve standardization and consistency**

FAQs

- What is the INDC's role during the execution of construction contracts?
 - ▶ Lead Engineer engages in all engineering activities.
 - ▶ ATR Extends through construction and engages team members when there are differing site conditions, design changes, significant technical questions, demonstration tests, etc
 - ▶ Recommends and supports COA's when issues are elevated to decision makers.
 - ▶ Can act as a HQ representative.
- How field offices should be engaging with the INDC during construction?
 - ▶ Steady State INDC will assume lead engineer positions
 - ▶ Build working relationships with INDC Staff
 - ▶ Keep open dialog going
- How the Operations community can help / support the INDC.
 - ▶ Participate in design charrettes and VE studies
 - ▶ Design teams include operations team members

Questions?

