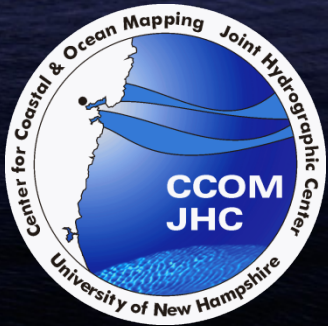


TRB- Marine Board Fall Meeting

Focus Session: The Future of Navigation in the USA



Dr. Lee Alexander

UNIVERSITY of NEW HAMPSHIRE



Focus Session: Main Themes

1. Plans for integrating e-Nav related technologies.
2. Adapting waterways risk assessment models to accommodate modern navigation needs.
3. Identify next steps federal agencies should take.
4. Outreach to various waterways user communities.

Session Objectives

1. Gain broad understanding of current or planned initiatives.
2. Identify gaps, stumbling blocks, and additional future considerations.
3. Identify next steps federal agencies should follow.

'Framing' Questions

1. What technological developments are anticipated or needed?
2. What are some examples of e-Nav elements? (in particular, those especially compelling?; lessons-learned?)
3. What are perceived technical operational and training barriers (any cultural issues?)
4. What steps should federal agencies follow re: current/future technologies?

'Framing' Questions (cont.)

5. What mechanism does USCG need to determine the proper mix of traditional and electronic AtoN?
6. What are the USCG plans re: a comprehensive risk assessment model for:
 - a) Port Access Route Study (PARS)
 - b) Port and Waterway Safety Assessment (PAWSA)
 - c) Waterway Analysis and Management System (WAMS)

“Everyone is entitled to my opinion.”

David Brinkley

Theme #1 - Plans for integrating e-Nav related technologies.

Find out what other nations are doing,

- especially Canada!

- consider national and international requirements (95% of SOLAS vessels in US waters are foreign flagged).

Theme #2 - Adapting waterways risk assessment models to accommodate modern navigation needs.

Evaluate various ways to improve maritime transportation efficiency **with no loss in safety.**

- Dynamic Under-keel Clearance
- Single-window reporting
- real-time met/hydro for decision-support

Theme #3 - Identify next steps federal agencies should take.

Major challenges are not really technical, operational, or training-related.

Instead, they are programmatic (e.g., budget, resources, time, and leadership)

Theme #4 - Outreach to various waterways user communities.

The CMTS *e-Navigation IdeaScale Online Dialogue* is a good idea, but it's not enough.

Need more workshops, and panel discussions between providers and users.

In Canada:

- Mariner's Workshop (annual)
- National CMAC (bi-annual)
- Regional CMAC meetings

Session Objective #1 - Gain broad understanding of planned/ current initiatives.

All too often each agency has its own perspective on what needs to be done, and how to do it.

Look for opportunities to cooperate, not compete.

Session Objective #2 - Identify gaps, stumbling blocks, and additional future considerations.

Follow a logical, step-wise approach:

User Needs Survey → Required Services →
Gap Analysis → Cost/Benefit

Also:

Optional vs. Mandatory (Canadian Arctic)

Preferential treatment (*EasyPass, Trusted Traveler*, etc.)

Session Objective #3 - Identify next steps federal agencies should follow.

Develop/follow a logical, step-wise approach:

User Needs Survey →

Required Services →

Gap Analysis →

Cost/Benefit →

Implementation Plan

Question #1 - What technological developments are anticipated or needed?

- AIS Application Specific Messages (ASMs)
- Satellite Comms
- Smart phones and tablets
- DGPS → WAAS ?

Question #2 - What are some examples of e-Nav elements? (in particular, those especially compelling; lessons-learned?)

- AIS ASM broadcast of real-time & forecast info
- Maritime Service Portfolio (Portal)
- ECDIS is becoming obsolete

Question #3 - What are perceived technical, operational, and training barriers (any cultural issues?)

- These are small compared to programmatic, and budgetary obstacles.
- Also, establishing policy and regulations.

Question #4 - What steps should federal agencies follow re: current/future technologies?

- Need more interaction and with developers, manufacturers, and users of equipment and services.
- Big difference between 'providers' and 'users'.

Question #5 - What mechanism does USCG need to determine the proper mix of traditional and electronic AtoN?

- No one single 'mechanism'; it's more of a process.
- But, don't use 'virtual' replace 'physical' AtoNs

Question #6 - What are the USCG plans re: a comprehensive risk assessment model for:

- a) Port Access Route Study (PARS)
 - b) Port and Waterway Safety Assessment (PAWSA)
 - c) Waterway Analysis and Management System (WAMS)
- Would like to know...

Why Mariners should “influence” what ECDIS in e-Navigation becomes...

1. What are the User Requirements?

- User Needs + Tasks → Information Needs → Services
- Shipborne and shore-based

2. What are (or will be) e-Nav equipment, systems and services?

- Relatively few ← [Realistic] → “anything and everything...”
- Shipborne and shore-based

3. What are (or will be) major presentation/ and display issues?

- Aware of the limitations of existing shipborne equipment/systems standards.
- Identify harmonization challenges & opportunities.
- Recommend guiding principles/best practices.

Everyone is entitled to my opinion...

Mariners vs. Developers

“A system is only as good as who is using it, and what it is being used for.”

“Give a good system to a mariner, and they will figure out how to use it better than those who designed it.”

Capt. Lee Alexander, USN (Ret)

Maritime Information – The “Wants”

“I don’t want more information, I want better!”

“Don’t tell me what was, tell me what is -- or will be.”

Capt. Jean-Luc Bedard, Port of Montreal

ECDIS - a paradigm shift.

“With paper charts, you have to figure out what is your position and what to avoid. With ECDIS, it always shows you where you are -- and where it’s safe to go.”

Capt. Dave McLeish, USCG

Using PPUs

“Never do something with one of these systems that you would not do without it.”

Capt. Wayne Bailey, Delaware River Pilots