Transport Corridors and maritime Infrastructure in the Arctic – The Norwegian Approach

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Some Key Issues

- What is the situation in the Arctic
  - what can we expect – players and activities

- What can we do and what are we doing on
  - international - regional - bilateral – domestic level
The Global interest for the Arctic

WHY – Fisheries, Oil and gas, new transport routes, other natural resources
The interest for the Arctic - WHO

- The five Polarnations: USA, Canada, Denmark, Norway, Russia
- Arctic Council nations: the ”five” + Sweden, Iceland, Finland
- Other European nations
- Fareast nations: China, South Korea, Japan
- International organisations: UN/ IMO (International Maritime Org), IALA (Internat. aids to navigation)
- Regional organisations: EU/European Union
- Bilateral cooperations

- **The legal plattform: UNCLOS**
Norway - the facts:

- Norway – large sea area and vital natural resources
- Responsibility for the management of sea area more than 6 times larger than the mainland
- Mainland coastline: 25 148 km (incl. fjords)

- Recourses and maritime activities
  - Oil and gas (export value 2010 app. NOK 500 billion)
  - Fisheries (export value 2011 app. NOK 23 billion)
  - Aqua culture (export value 2011 app. NOK 30 billion)
  - Maritime transport
    - Domestic
    - Import and export
    - Transit traffic
    - Cruise traffic
The treaty on maritime delimitation between Norway and Russia

- 15th September 2010 the treaty was signed
- Boundary
- Cooperation – fisheries – oil and gas
Neighbours
Not a new ocean

- Already a significant amount of traffic in our adjacent waters
Future Arctic maritime activity – main questions for the coastal states:

- Of what kind will it be?
  - Cruise ships
  - Fisheries
  - Special transports
  - Container ships
  - Tankers
  - Other ...

- Where will it go?
  - Northern Sea Route
  - Northwest Passage
  - Trans-polar?

Vast areas, extreme conditions and limited SAR and oil spill combating capabilities
Maritime transport
The melting of the ice cap - a global challenge

Future routes?

The ice is retreating.

Will this result in increased transport in Arctic waters?

Arctic Climate Impact Assessment 2004
A shorter distance than current routes
Future routes

- But the shortest routes are transpolar
- **Infrastructure is needed for all activities**

The North West Passage
The North East Passage
Possible Trans-Arctic routes
Minimum sea ice extent 1970
Minimum sea ice extent 2007
Russian Transport Corridors
Not a new Ocean – but:

- Possible new regional and global opportunities and challenges - maritime transport, other activities
- Coastal states – flag states - Commercial interest

- We need:
  - Knowledge, research, exchange of experience, management plans
- Cooperation – not competition
- Infrastructure
  - preventive measures, preparedness, oil spill, environmental protection, search and rescue
Cooperation not competition

• National agendas

• Special conditions in the Arctic
  – need for more advanced infrastructure
Effective, safe and secure maritime transport – need for aids to navigation

- Surveillance, communication, information and warning systems, data exchange
- Virtual aids to navigation

Need to take full advantage of existing and new systems and combine data from different systems
However, there are challenges ...

- Vast area and extreme conditions
- Safety of persons and equipment at sea, hazardous waste transportation, oil spills,
- Slow degeneration of toxins and short food chains
- Incident/accident in this area – compared to other areas of the world

- The risks are enhanced by challenges to navigation and maritime surveillance
The challenges are enhanced by ...

- Traditional aids to navigation is not sufficient in the Arctic

- Limitations to radio and satellite communications for both voice and data transmission in the Arctic

- GNSS (Global Navigation Satellite Systems) in the Arctic has specific challenges related to latitude

- GPS (USA) GLONAS (RUSSIA) Compas (CHINA) Galileo (EU)

- Loran C /Chayka - eloran/eChayka
In addition, there is the ice:

- *Arctic Marine Shipping Assessment*: Ships navigating in the Arctic need the same suite of meteorological and oceanographic data, products and services as in the other oceans ...

- + a comprehensive suite of data, products and services related to *sea ice* and *icebergs*!

- *Icing on ships*
Icebergs are unpredictable ...

Fig. 6 Iceberg drift trajectory with hourly position marks for the period August 8-10, 1990 (SNOP data).
So improvements in maritime surveillance and aids to navigation is key for \textit{coastal states}!

- Traffic monitoring vital for efficient daily operations
  - Fisheries control
  - Support of maritime safety and security
  - Search and Rescue
  - Environmental protection
  - Border control
  - Oil – and gas activities
  - Other ...

\textbf{Important also for flag states, ship-owners, cargo-owners, shipbuilding industry}

AIS data gathered between 19 UTC 2. – 3. June by NORAIS AIS receiver at ISS.
Approaching the challenge: tools, actions and initiatives

Global/multilateral cooperation

- **UNCLOS**: the foundation
- **IMO**: - Polar code
  - e-Navigation
- **IALA**: Arctic waters
- **Arctic Council**: AMSA, SAR, EPPR
Bilateral cooperation

- **Norway – Russia**
  - MoU 2006: Safety at sea and oil spill prevention
  - Radio-navigation: Loran C/Chayka
  - Information system

- **Norway – EU**
  - EMSA (EU Maritime Safety Agency)
  - Safe Sea Net
  - CISE (Common Information Sharing Environment)
Domestic actions

- UNCLOS
- Traffic separation scheme
- Coast line AIS
- Space-based AIS
- NAVAREA 19
- Location for GNSS-infrastructure
PORTS in the High North and the Arctic – Port Security ISPS

• Size

• Functions – goods handling, trans-shipment, off shore activities, portservices

• Port infrastructure

• Hinterland facilities

• Intermodal solutions: road rail connections
PORTS ...

• Ownership

• Investment – Funding

• Cooperation
What sort of risk are we prepared to take?

- What is security?

- Security challenges:
  - Nature
  - Climate change
  - Human failure
  - Increased activity - Transport
  - Mann made – terrorism
  - Military

- Prevent – handle - recover
Knowledge and cooperation

Thank you for your attention!