EfficienSea2 Conference:
GETTING CONNECTED TO THE FUTURE
8-9 November 2016

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EfficienSea2 solution for automated sulphur emission monitoring

An authority perspective

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Why sulphur?

January 1, 2015:
Sulphur limit at 0.1% in marine fuels used in SECA’s (blue areas)

January 1, 2020:
Expected sulphur limit at 0.5% in marine fuels used anywhere in the world

Compliance methods
• Low sulphur fuel
• Alternative fuel types
• Abatement methods
The Enforcement Challenge

Document control and fuel sampling

Surveillance (experimental)
A possible solution
NEXT UP:

EfficienSea2 may be part of the solution…
Agenda

• Background and Roadmap
• Presentation of our case
• The business case, incentives and enforcement
• A proposed solution for automated sulphur emission monitoring
EU, SECA and IMO Global sulphur cap

- EU Directive
  - 0.1 % in all ports 2010

- IMO SECA in North Sea and Baltic Sea
  - 0.1 % in 2015

- IMO Global Sulphur Cap
  - 0.5 % in 2020
  - Increasing number of “low sulphur” ports
The Case

- Ships operating in EU waters beyond 2020
- Ships using approved equivalent methods, i.e. Exhaust Gas Cleaning Systems (scrubbers)
- Ships with continuous monitoring of emissions (CEM)
- Owners willing to participate in voluntary data submissions
Roadmap for automated sulfur reporting

1. Technical feasibility study
2. Standardised, secure and safe
3. Demonstration of concept
4. Actors willing to implement
5. Sustainable business model
Emission report system

- Service Provider/Class Society
- Authority
- National Single Window
Example of data from scrubbers
Raw data or an indicative notification
Criterion based Decision Support Tool

- The current rules are rules concerning sulphur emissions are binary
- A Decision Support Tool should be based on criterions that consider the accumulated amount of exceeded measurements
## The business case

<table>
<thead>
<tr>
<th>INCENTIVE POWER by 2020</th>
<th>SECA</th>
<th>Non-SECA</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU (0.1%)</td>
<td>WEAK to MEDIUM -If PSC for S is waived</td>
<td>WEAK</td>
</tr>
<tr>
<td>EU Ports (0.1%)</td>
<td>WEAK to MEDIUM -If PSC for S is waived</td>
<td>WEAK to MEDIUM -If PSC for S is waived</td>
</tr>
<tr>
<td>EU EEZ (0.5%)</td>
<td>Not applicable</td>
<td>WEAK Coastal state</td>
</tr>
<tr>
<td>Global (0.5% in EEZs)</td>
<td>WEAK Coastal state</td>
<td>WEAK Coastal state</td>
</tr>
<tr>
<td>Global (0.1% ports)</td>
<td>WEAK</td>
<td>MEDIUM to STRONG In low-S ports</td>
</tr>
</tbody>
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The next steps

- To create an application, which implements our methods for analysing sulphur data
- Get it tested by a short sea shipping operator in the Baltic region