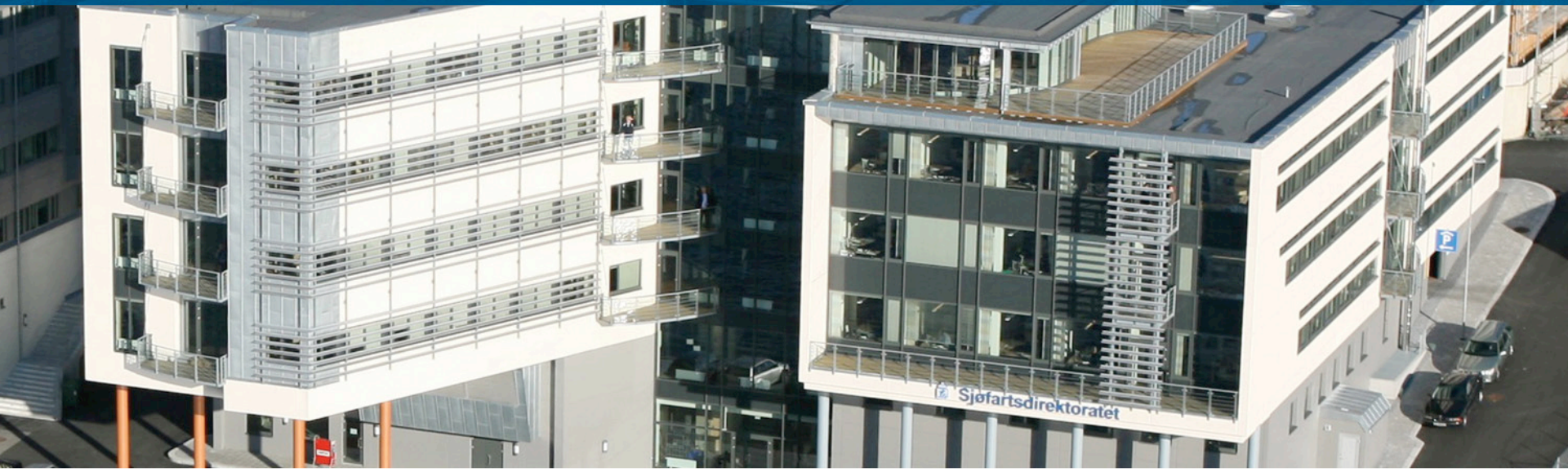
Sjøfartsdirektoratet
Norwegian Maritime Authority

Possible hazards for engines and fuel systems using heavy fuel oil in cold climate



NIS//NOR

Together for improved safety at sea in a clean environment

Objective

- The main aim of the project is to examine whether ships that utilize heavy fuel oil in the Arctic are overrepresented with respect to engine or fuel system failures, compared to ships that utilize other fuel types.

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Consultants

Consultant is Rambøll Management Consulting AS which the Norwegian Maritime Authority has a framework agreement with. Rambøll has been in the consultancy business for more than 40 years, delivering service across a broad specter of areas. They sub-contract MARINTEK, the Norwegian marinetechnical research institute, which have high competency on engines and engine systems.

The 4 parts of the project

- Short description of engine and fuel systems that utilize HFO
- Risk of engine failure. Analysis of improvement methods.
- Switching between fuels. Panel of about 5 persons with relevant background identifying and discussing challenges
- Frequency of engine failure. Is HFO overrepresented?

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Time schedule for HFO III b project

Table 2. Time schedule

	june	july	august	september	october	november	january/february 2016
Part 1 and 2			Literature/data search		report		
Part 3				Workshop			
Part 4			Literature/data search		report		
PAME 2016 I meeting							Presentation of results

Status meeting will be held September 21rst, 2015 (via telephone, Lync or video) between all participants.

Project budget

Table 3. Budget

Theme	Hours	Cost
Engine systems that utilize HFO	20	25200
Risk of engine failure	160	201600
Switching between different types of fuels	60	60480
Frequency of engine failure	120	139200
Report, quality control and project leadership	120	139200
Total hours	480	566840
Expense for travel, ekspert panel		20000
Sum cost		**586840**
Tax	25 %	146710
Cost including tax		**733550**

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Possible outcomes

- Improved understanding of engine failure connected to the use of or switching between HFO and other fuels in cold climate.
- The identification of possible weaknesses in the engine or fuel system and mitigation of risks.
- If engine failure is caused by poor fuel quality, it may be an incentive to fuel suppliers and national authorities to improve fuel quality.
- Support to work in the IMO on fuel quality.
- If the statistics show overrepresentation of incidents for HFO-vessels, more focus should be placed on risk mitigation for the use of HFO in Arctic waters.