



Council

Distr.: General
3 May 2019

Original: English

Twenty-fifth session

Council session, part II

Kingston, 15–19 July 2019

Agenda item 11

Draft regulations for exploitation of mineral resources in the Area

The use of electronic monitoring systems as an effective way to remotely monitor the activities in the Area

Submitted by the delegation of Belgium

I. Introduction

1. During the first part of its twenty-fifth session of the Council, during the discussion on the inspection mechanism to be included in the draft exploitation regulations, remote monitoring was briefly considered. In our statement on the subject,¹ the Belgian delegation provided a brief overview of the capabilities of electronic monitoring systems.

2. At the March 2019 meetings of the Legal and Technical Commission, the Commission took note of document [ISBA/25/C/5](#) in relation to the implementation of an inspection mechanism in the Area and of discussions in the Council and acknowledged the value and significance of the use of remote monitoring technology. Owing to time constraints, the Commission did not have an opportunity to consider this matter in detail and will do so at its subsequent meetings (see [ISBA/25/C/18](#), para. 36).

II. Reason for submitting

3. Over the past 20 years, the Belgian Federal Public Service Economy, Small and Medium Enterprises and Energy has used electronic monitoring systems for the remote monitoring of sand extraction within Belgium's territorial sea and continental shelf and has been following the technological advances in this area. It is our wish to share this knowledge with the Council.

¹ https://ran-s3.s3.amazonaws.com/isa.org.jm/s3fs-public/files/documents/belgium_inspectionmechanism.pdf.



III. Objective

4. The present paper aims to provide the Council with an overview of the options for remote monitoring through electronic monitoring systems.

IV. Dredge control and monitoring systems

5. Many large ships, including dredgers, are equipped with monitoring systems to help with the operations of the ships. In dredgers, these include monitoring the position of the vessel, control and monitoring of the dredging process, production monitoring, diagnosis of the ship's machinery systems, draught and loading monitoring, logging and reporting. For ships belonging to large enterprises, this information is transmitted through satellites to their headquarters.

V. Electronic monitoring by authorities

6. Electronic monitoring systems used by authorities come in a large variety of configurations, from open systems, where the information is taken from the ship's monitoring systems, and hybrid systems, to sealed systems, where the electronic monitoring systems and their dedicated sensors are placed behind sealed panels and the sensors are connected to the monitoring system through dedicated communication lines.

7. The electronic monitoring system used in the Belgian marine waters has, inter alia, a dedicated uninterrupted power supply system and Global Positioning System (GPS) receiver. This allows the system to continue to monitor the relevant ship even when the power is down. The system automatically registers the data from all sensors once per hour if the ship is not navigating and the dredging pumps are off, or if the ship is outside the Belgian part of the North Sea, once every 15 minutes if the ship is navigating and the dredging pumps are off and once every 30 seconds when the ship is dredging. While the information stored in the system had to be collected manually in the beginning, in the past five years it has been done through secured wireless automatic data transmission and remote access by the authority.

8. The latest electronic monitoring system developed in the United Kingdom is a stand-alone sealed system that registers the vessel's positioning and dredging activity through acoustic recording. Logged data are transmitted automatically to the authorities and operators. The systems settings (including licence areas and environmental and archaeological exclusion zones) can be configured and accessed by the operator through an online platform.

9. For ships extracting in the Area, a hybrid system could be required, as it would be impossible to seal all environmental monitoring systems, such as autonomous underwater vehicles and monitoring buoys.

VI. Inspection needs

10. Electronic monitoring systems have the following inspection needs:

(a) Review and approval of the proposed monitoring system prior to its installation;

(b) Inspection and sealing of the electronic monitoring system and its sensors (as far as is practicable);

- (c) Monitoring of and reporting on the information transmitted by these systems;
- (d) Approval of the breaking of seals on defect sensors, followed by an inspection and sealing of replaced sensors;
- (e) Periodic reinspection of the system.

VII. Recommendation

11. The Council is invited to take note of the information provided and to request the Commission to use the information provided by the present report, as appropriate, when it considers the matter of the implementation of an inspection mechanism in the Area in detail.
