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Offshore Oil and Gas Operations in the European Union for the Year
2017**

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REPORT FROM THE COMMISSION

**Annual Report on the Safety of Offshore Oil and Gas Operations in the European Union
for the Year 2017**

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1. INTRODUCTION

This is the second European Commission report on the safety of offshore oil and gas operations in the European Union (EU). The first report covered safety in the year 2016, and was released in August 2018.

The legal basis for this report is Directive 2013/30/EU¹ of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC ('Offshore Safety Directive'). This legislation aims at achieving a high level of safety in offshore oil and gas operations, for the benefit of: workers; the environment; offshore platforms and equipment; and economic activities such as fishing and tourism. The provisions of the Directive, as implemented by Member States, will help to: (i) prevent major accidents; (ii) reduce the number of incidents; and (iii) ensure effective follow-up of accidents and incidents in order to mitigate their consequences.

As in the report for 2016, the purpose of this annual report is: (i) to provide data on the number and type of installations in the EU; and (ii) to give information about incidents on — and the safety performance of — offshore oil and gas operations. In the coming years, when additional reports are available, the series of annual reports will serve as a record of safety performance in Member States' offshore oil and gas activities.

This report is based on annual reports and data notified by Member States as required by the Offshore Safety Directive. The Commission has received data from Bulgaria, Croatia, Cyprus, Denmark, Germany, Greece, Ireland, Italy, the Netherlands, Poland, Romania, Spain and the United Kingdom. Most of the installations are located in the North Sea and Atlantic Ocean (378 installations), while there are 166 installations in the Mediterranean Sea, 8 in the Black Sea and 2 in the Baltic Sea.

The competent authorities of the Member States regularly inspected the offshore installations in their jurisdictions in 2017. Following certain incidents, three Member States (the United Kingdom, Denmark and the Netherlands) carried out investigations during the reporting period. The United Kingdom carried out 16 investigations for safety and environmental concerns, and 2 investigations for major accidents. One of the UK's investigations for major accidents was still ongoing during the time of reporting. Denmark and the Netherlands each carried out 1 investigation for a major accident.

The figures provided by Member States, specifically on the number and severity of accidents reported in relation to the number of installations, indicate that the European offshore sector also demonstrated a good safety performance in 2017.

¹ OJ L 178, 28 June 2013, p. 66.

2. LEGAL BASIS

In accordance with Article 25 of the Offshore Safety Directive, the Commission is required to publish an annual report on the safety and environmental impact of offshore oil and gas operations based on information reported by Member States. Member States must submit to the Commission an annual report containing information specified in Annex IX (point 3) of the Offshore Safety Directive, by 1 June each year.

The annual reports to be submitted by Member States pursuant to Article 25 must contain, as a minimum, the following information:

- (a) the number, age and location of installations;
- (b) the number and type of inspections and investigations carried out, in addition to any enforcement actions or convictions;
- (c) incident data pursuant to the common reporting system required in Article 23;
- (d) any major change in the offshore regulatory framework;
- (e) the performance of offshore oil and gas operations.

Member States' deadline for publishing the required information is 1 June of the year following the reporting period (e.g. 1 June 2018 for the year 2017).

Member States must report using a common format provided by Commission Implementing Regulation (EU) No 1112/2014 of 13 October 2014. This Implementing Regulation sets a common format for the sharing of information on major hazard indicators by the operators and owners of offshore oil and gas installations. It also sets a common format for the publication of information on major hazard indicators by the Member States². A Commission Guidance Document³ dated 25 November 2015 provides further specific information on the Implementing Regulation, and explains how to use the reporting format.

3. METHODOLOGY AND INFORMATION RECEIVED FROM MEMBER STATES

Pursuant to Annex IX (point 3) of the Offshore Safety Directive, Member States are obliged to submit clearly defined information on incidents in their offshore oil and gas sector, using the templates provided by Implementing Regulation 1112/2014. The data submitted must include information on the offshore oil and gas installations in the EU, such as number, type, location and age. The reports from Member States must also give information on the number of: (i) offshore

² OJ L 302, 22 October 2014, p. 2.

³https://euoag.jrc.ec.europa.eu/files/attachments/2015_11_25_implementing_regulation_guidance_document_final.pdf.

inspections, investigations and enforcement actions taken; (ii) incidents by category; and (iii) injuries.

In addition to data on individual Member States, the Commission has assessed the safety performance of offshore regions. The Commission also did this for the 2016 report. For this purpose, the Commission considers: (i) Germany, Denmark, France, the United Kingdom, Ireland and the Netherlands as the North Sea and Atlantic region; (ii) Spain, Greece, Croatia, Cyprus, Italy and Malta as the Mediterranean region; (iii) Bulgaria and Romania as the Black Sea region; and (iv) Latvia and Poland as the Baltic Sea region.

For its annual report for 2017, the Commission has used information provided by Bulgaria, Croatia, Cyprus, Greece, the Netherlands, Denmark, Germany, Ireland, Italy, Poland, Romania, Spain and the United Kingdom. Other Member States were not active in the offshore oil and gas sector or did not submit information relevant for this report.

With the exception of the United Kingdom, all Member States with offshore oil and gas operations provided complete data on all their installations. The United Kingdom has limited parts of its report to installations which were subject to a regulatory review of their risk-assessment documentation (Article 42(2) of the Offshore Safety Directive). This means that information from the United Kingdom on investigations, enforcement actions, incident data, and the safety performance of offshore operations is limited to 139 installations (out of a total of 188 installations present in the United Kingdom continental shelf in 2017).

4. THE OFFSHORE SECTOR FOR OIL AND GAS IN THE EUROPEAN UNION

4.1 Installations and production

The vast majority of offshore installations⁴ in EU waters are located in the North Sea, specifically in the exclusive economic zones of the United Kingdom and the Netherlands (approximately 34% and 28% of offshore installations in EU waters, respectively). In the Mediterranean, Italy is the most active Member State (25% of all installations in the EU waters) followed by Croatia. In the Black Sea region, Romania has an established offshore oil and gas industry, while Bulgaria has commenced exploration activities for offshore hydrocarbons but has very limited production. According to the reports received from Member States on the Baltic Sea, only Poland has offshore installations in this region (see Table 1). In total, there were 554 production and non-production installations reported in EU waters in 2017, which constitutes a decrease of approximately 5% (32 fewer installations) compared to 2016.

⁴ Mobile Offshore Drilling Units (MODUs) are not part of the analysis of Section 4.1.

Table 1: Fixed installations: 'Type of installation', by region and Member State

Region/Country	Type of installation					Total change from 2016
	FMI	NUI	FNP	FPI	Total	
Baltic Sea	1	1	0	0	2	0
Poland	1	1	0	0	2	0
Black Sea	7	1	0	0	8	-1
Bulgaria	0	1	0	0	1	0
Romania	7	0	0	0	7	-1
Mediterranean	16	147	0	3	166	+1
Greece	1	1	0	0	2	0
Italy	12	126	0	3	141	+1
Spain	1	2	0	0	3	0
Croatia	2	18	0	0	20	0
North Sea & Atlantic	143	212	1	22	378	-32
United Kingdom	80	86	1	21	188	-37
Ireland	0	1	0	1	2	0
Denmark	10	20	0	0	30	+1
Netherlands	51	105	0	0	156	+4
Germany	2	0	0	0	2	0
Totals	167	361	1	25	554	-32

(*) FMI — Fixed, manned installation; FNP — Fixed, non-production installation; FPI — Floating production installation; NUI — (Normally) Un-attended installation

In 2017, there were 6 installations reported as being decommissioned in EU waters: 5 in the United Kingdom and 1 in Italy. In the same year, 2 new fixed installations were reported as entering into operation: 1 in the United Kingdom and 1 in the Netherlands. The movement of floating production installations has led to 1 additional installation being reported. Changes in the reporting methods of some Member States have also contributed to the change in the number of installations reported compared to 2016.

More than half of the offshore installations in EU waters entered into operation between 1980 and 2000. Since 2010, the development of new production installations has dropped noticeably in the North Sea and Atlantic region and in the Mediterranean Sea (Table 2 and Figure 1).

Table 2: Number of installations present in EU waters, by decade of entry into operation and by region(*)

Decade of entry into operation	REGION				
	Baltic Sea	Black Sea	Mediterranean	North Sea and Atlantic	Total
Data not available				6	6
1960-1969	0	0	7	21	28
1970-1979	0	0	14	40	54
1980-1989	0	2	53	82	137
1990-1999	1	3	42	118	164
2000-2009	1	3	40	69	113
2010-2019	0	0	10	42	52
Total	2	8	166	378	554

(*) In comparison to the data reported in 2016, the data for the year of entry into operation of the installations were more complete in the Member States' reports for 2017. There are therefore some discrepancies between the corresponding data of the two reporting years.

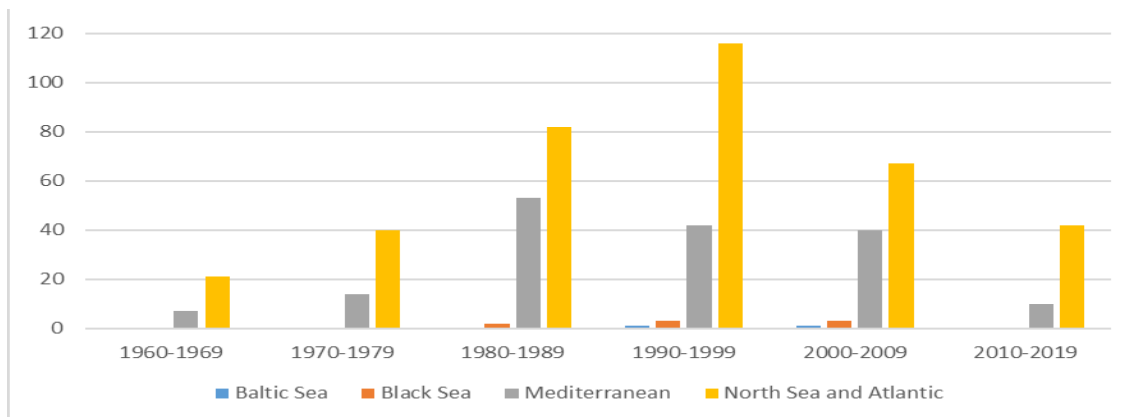


Figure 1: New fixed installations by decade and region

The largest part (approximately 94%) of the EU's domestic oil and gas is produced in the North Sea and Atlantic region (Table 3). The United Kingdom is by far the largest contributor, followed by the Netherlands and Denmark. Italy and Croatia are active producers in the Mediterranean Sea, while in the Black Sea only Romania currently has a noticeable oil and gas output.

Table 3: Offshore oil and gas production in the EU in kilotonnes of oil equivalent (ktoe)

Region/Country	Total production in 2017 in ktoe	% EU total	Change from 2016 in ktoe	Change from 2016 in %
Baltic Sea	229.92	0.20%	107.01	46.5
Poland	229.92	0.20%	107.01	46.5
Black Sea	1,509.27	1.34%	-49.62	-3.3
Bulgaria	44.08	0.04%	-17.7	-40.2
Romania	1,465.19	1.30%	-31.92	-2.2
Mediterranean	4,692.36	4.15%	-770.04	-16.4
Croatia	691.20	0.61%	-176.69	-25.6
Greece	146.16	0.13%	-34.35	-23.5
Italy	3,731.00	3.30%	-486	-13.0
Spain	124.00	0.11%	-73	-58.9
North Sea & Atlantic	106,620.27	94.31%	-2,312.18	-2.2
Denmark	11,393.00	10.08%	52	0.5
Germany	1,070.00	0.95%	31.91	3.0
Ireland	227.40	0.20%	96.52	42.4
Netherlands	12,986.00	11.49%	-867	-6.7
United Kingdom	80,943.88	71.60%	-1,625.6	-2.0
Total	113,051.83	100.00%	-3,024.82	-2.7

4.2 Offshore inspections, investigations, enforcement actions and regulatory framework⁵

The competent authorities of the Member States have regularly inspected the offshore installations in their jurisdictions. Table 4 presents the number of offshore inspections carried out during the reporting year. The number of inspections usually increases in line with the number of installations. Notably, the competent authorities of Italy and Germany carried out a relatively high number of inspections in relation to the number of installations when compared with other Member States.

The data received on inspections are rather similar to those reported in 2016. Overall, fewer inspections took place in 2017 (630) in comparison to 2016 (735). However more effort was

⁵ OJ L 178, 28 June 2013, p. 78

Article 8(1)(b) of the Offshore Safety Directive on the regulatory functions of the competent authority: overseeing compliance by operators and owners with this Directive, including inspections, investigations and enforcement actions.

allocated in terms of man-days (2,083 man-days in 2017 in comparison to 1,913 man-days in 2016). Table 4 includes two additional columns, which list the ratios of man-days per inspected installation, and the ratios of inspected installations per total number of installations for each Member State. As in 2016, Romania did not report carrying out any inspections during 2017.

Table 4: Number of offshore inspections by region and Member State in 2017()(**)*

Region/Country	Inspection s	Man-days spent on installation (travel time not included)	Number of inspected installations	Man-days per inspected installation	Inspected installations as a percentage of total number of installations
Baltic Sea	2	7	2	3.50	67%
Poland	2	7	2	3.50	67%
Black Sea	1	0	1	0.00	11%
Bulgaria	1	0	1	0.00	100%
Romania	0	0	0	0.00	0
Mediterranean	304	378	96	3.94	56%
Croatia	12	2	6	0.33	30%
Cyprus	2	9	1	9.00	50%
Greece	0	0	0	-	-
Italy	289	366	88	4.16	61%
Spain	1	1	1	1.00	33%
North Sea & Atlantic	323	1,698	225	7.55	56%
Denmark	18	62	15	4.13	41%
Germany	10	10	2	5.00	100%
Ireland	3	32	2	16.00	67%
Netherlands	60	41	49	0.84	30%
United Kingdom	232	1,553	157	9.89	80%
Total	630	2,083	324	6.43	56%

(*) The normalised values consider the total number of installations (i.e. fixed and mobile) operating within a jurisdiction. The numbers for Region/Total take into account that four mobile installations were identified as operating in more than one jurisdiction (North Sea region) in 2017.

(**)Table includes information from Member States with at least one offshore installation present in their jurisdiction in 2017.

Article 18 of the Offshore Safety Directive grants certain rights and powers to the competent authorities of Member States over operations and installations in their jurisdiction. These rights and powers include the right to prohibit operations and the right to request measures for ensuring compliance with the general principles of risk management and for ensuring safe operations. Member States in the North Sea and Atlantic region took eight such enforcement actions during the 2017 reporting year.

Three Member States carried out investigations during the reporting period: the United Kingdom, Denmark and the Netherlands. The United Kingdom carried out 16 investigations for safety and environmental concerns, and 2 investigations for major accidents. One of the UK's investigations for major accidents was still ongoing during the time of reporting. Denmark carried out 1 investigation for a major accident, and the Netherlands carried out 1 investigation for a major accident. The total number of investigations undertaken in 2017 (20) is comparable to the number undertaken in 2016 (23).

The United Kingdom took 45 enforcement actions in 2017, most of which were improvement notices, for the 139 installations dealt with in this part of its report (from a total of 188 installations). The Netherlands took 2 enforcement actions (administrative fines). Accordingly, the total number of enforcement actions taken in 2017 (47) is considerably larger than in 2016 (10).

5. INCIDENT DATA AND SAFETY PERFORMANCE OF OFFSHORE OPERATIONS

Of the Member States active in offshore oil and gas operations, the United Kingdom, the Netherlands, Denmark, Germany and Bulgaria reported the following incidents (in accordance with Annex IX of the Offshore Safety Directive).

- In the United Kingdom, there were 30 reportable events in 2017, including 2 major accidents. One of these major accidents was still under investigation at the time of reporting, and therefore details of its investigation are not included in this annual report. The main causes of the major accident whose investigation was completed at the time of reporting were human error and operational causes, in conjunction with inadequate instruction/procedures. The United Kingdom's report covers 139 installations (out of a total of 188).
- In the Netherlands, there were 13 reportable events, including one major accident. The causes of the major accident have not been reported, since the case was still under investigation at the time of reporting.
- In Denmark, there were 14 reportable events, including one major accident. The causes of the major accident have not been reported, since the case was still under investigation at the time of reporting.
- In Bulgaria, there was 1 reportable event, and no major accident.
- In Germany, there was 1 reportable event, and no major accident.

The count of major accidents includes incidents with a significant potential to cause fatalities or serious personal injuries even if they did not lead to such outcomes.

Of the reportable events, most (79.7% of the total) fell under the category of unintended releases; 13.6% concerned the loss of well control (blowout/diverter activation); 1.7% concerned failures of safety and environmental critical elements (SECE); and 5.1% concerned vessel collisions. No incident required the evacuation of personnel.

Table 5: Incidents by categories (Annex IX of the Offshore Safety Directive, EU level)

Annex IX categories	Number of events	Share of events in category	Share of total events	Number of events (in 2016)
(a) Unintended releases — Total	47	100.0%	79.7%	25
Ignited oil/gas releases — Fires	1	2.1%	1.7%	0
Ignited oil/gas releases — Explosions	0	0.0%	0.0%	0
Not ignited gas releases	31	66.0%	52.5%	13
Not ignited oil releases	13	27.7%	22.0%	7
Hazardous substances releases	2	4.3%	3.4%	5
(b) Loss of well control — Total	8	100.0%	13.6%	11
Blowouts	0	0.0%	0.0%	0
Blowout/diverter activation	6	75.0%	10.2%	11
Well barrier failure	2	25.0%	3.4%	0
(c) Failures of SECE	1	100.0%	1.7%	3
(d) Loss of structural integrity — Total	0	-	0.0%	2
Loss of structural integrity	0	-	0.0%	0
Loss of stability/buoyancy	0	-	0.0%	1
Loss of station keeping	0	-	0.0%	1
(e) Vessel collisions	3	100.0%	5.1%	0
(f) Helicopter accidents	0	-	0.0%	0
(g) Fatal accidents (*)	0	-	0.0%	0
(h) Serious injuries of 5 or more persons in the same accident (*)	0	-	0.0%	0
(i) Evacuation of personnel	0	-	0.0%	1

(j) Environmental accidents ^(**)	0	-	0.0%	0
TOTAL	59	100.0%	100.0%	42

^(*) Only if related to a major accident

^(**) According to reports of Member States, the major accidents did not qualify as environmental accidents.

In the EU, the total number of reported incidents increased from 42 in 2016 to 59 in 2017, largely due to an increased number of unintended releases. In contrast, the ‘loss of well control’ incidents fell from 11 in 2016 to 8 in 2017, and the ‘failures of safety and environmental critical elements’ fell from 3 to 1 in the same period. There were no reports of failures of structural integrity in 2017, in contrast to 2 such failures reported in 2016. In addition, no evacuation of personnel was reported for 2017, in contrast to 2016 where such an evacuation took place once.

There were 3 vessel collisions reported for 2017 compared to none reported for 2016, and there were 2 failures of well barriers compared to none reported for 2016. In 2017, a total of 4 incidents were classified as major accidents⁶, since they could have potentially caused fatalities or serious personal injury. These are still being assessed by the competent authorities. In comparison, two major accidents were reported in 2016.

6. CONCLUSIONS

Both the number of installations and the level of overall oil and gas production slightly decreased in 2017 in comparison to the year 2016 (the number of installations decreased from 586 to 554, while total production declined by 2.7%). The number of inspections and investigations carried out did not change significantly.

The Commission assesses the safety of the EU’s offshore oil and gas operations based on the data provided by Member States in accordance with the provisions of the Implementing Regulation on reporting. Accordingly, the accuracy of the Commission’s assessment depends on the information submitted by Member States.

⁶ OJ L 178, 28 June 2013, p. 73:

Article 2(1): ‘major accident’ means, in relation to an installation or connected infrastructure:

(a) an incident involving an explosion, fire, loss of well control, or release of oil, gas or dangerous substances involving, or with a significant potential to cause, fatalities or serious personal injury;

(b) an incident leading to serious damage to the installation or connected infrastructure involving, or with a significant potential to cause, fatalities or serious personal injury;

(c) any other incident leading to fatalities or serious injury to five or more persons who are on the offshore installation where the source of danger occurs or who are engaged in an offshore oil and gas operation in connection with the installation or connected infrastructure; or

(d) any major environmental incident resulting from incidents referred to in points (a), (b) and (c).

For the purposes of determining whether an incident constitutes a major accident under points (a), (b) or (d), an installation that is normally unattended shall be treated as if it were attended.

As in 2016, no fatalities were reported in 2017. Furthermore, the Commission appreciates the decrease of incidents in certain categories, such as losses of well control, failures of safety and environmental critical elements, and failures of structural integrity. It notes the number of major accidents, unintended releases, vessel collisions and failures of well barriers. Based on the above, it can be said that the European offshore sector demonstrated a good safety performance in 2017.