



Safety and Environmental Performance Data for Industry Benchmarking 2017 Charts

OCS Performance Measures Program
Offshore Safety Improvement Branch
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“To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement.”

About the Data in This Presentation

- Primary data source: BSEE Form 0131, required to be submitted annually to BSEE (30 CFR 250.1929)
- Data collected on form includes:
 - Company and contact information
 - Illnesses and injuries: recordable vs DART (Days Away, Restricted, Transfer), company vs contractor, production vs drilling vs construction, by quarter
 - Hours worked: company vs contractor, production vs drilling vs construction, by quarter
 - Number of EPA NPDES (Environmental Protection Agency, National Pollutant Discharge Elimination System) non-compliances
 - Number and volume of oil spills less than one barrel each
- Other data added to published set:
 - Wells spud
 - Platform count
 - Losses of well control
 - Fires and explosions
 - Incidents of non-compliance
 - Rigs and components inspected
 - Oil and gas production
 - Oil spills in two additional categories: 1) between 1 and 10 barrels each, and 2) over 10 barrels each
- Aggregated data published in table format on BSEE.gov
- Incident rates calculated and published in graph format on BSEE.gov (those graphs are included in this presentation)
- Industry may use the incident rates to compare their individual performance to the averages for all OCS O&G work.

Overview of Calendar Year 2017 Data Set

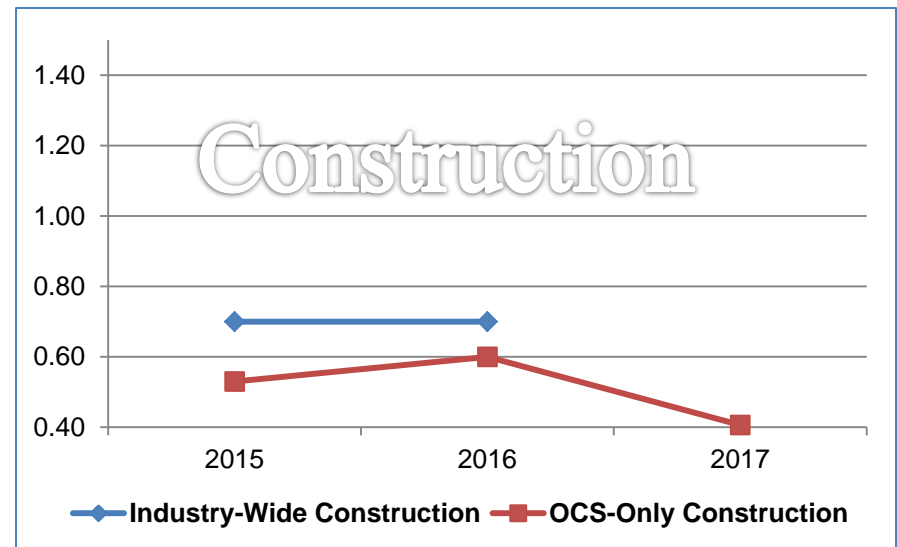
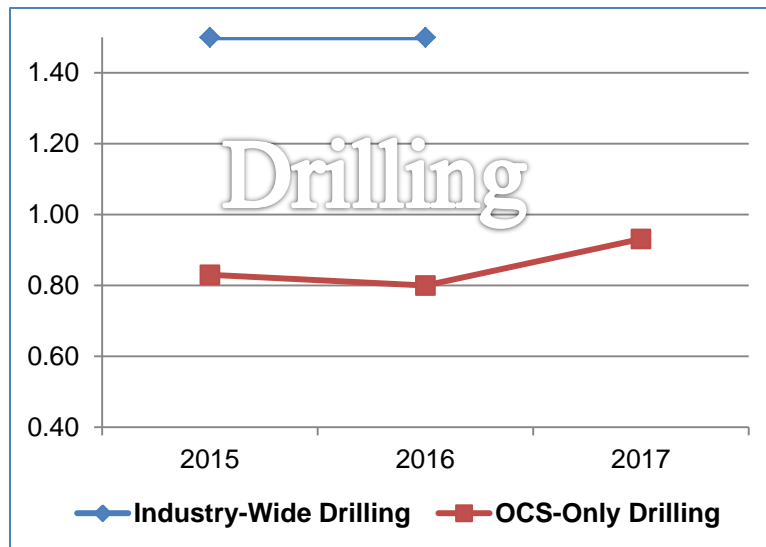
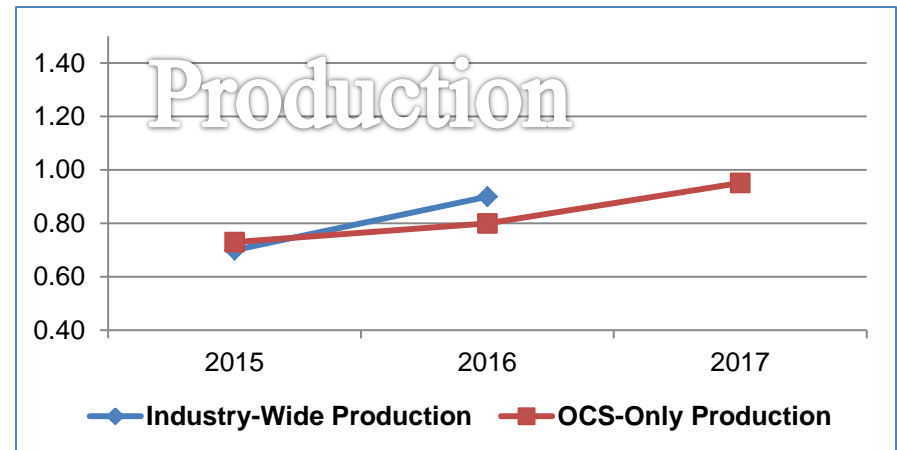
- The graphs in this presentation, as well as the companion tables, are derived from both:
 - Unverified, self-reported data from BSEE-0131 forms,
 - Verified data required to be reported to BSEE via other means, such as eWell.
- Data from calendar year 2010 and later may be considered more complete, as 2010 was the first year that BSEE-0131 form submission was required (30 CFR 250.1929).
- 66 active operators (parent companies) were expected to submit forms in 2017. BSEE received all 66 forms for 100% participation.

Highlights of 2017 Data

- Number of active companies and total work hours continue to decline while total production continues to increase
 - The number of contractor work hours in production, drilling and construction continues to decline, while company work hours are more stable (slide 8)
 - A slight increase in production volume per year (slide 6) and the continuing reduction in contractor work-hours (slides 7-8) leads to a continuing trend of more BOE produced per work-hour (slide 9)
 - 2017 also saw a decline in the number of work hours expended per well spud (slide 10)
- Safety statistics are still tracking near their multi-year averages on the OCS
 - The Injury/Illness rate for drilling on the OCS appears to track significantly lower than the injury/illness industry-wide (slide 5)
 - The injury/illness rate for production activities on the OCS appears similar to the rate recorded industry-wide (slide 5)
 - There are slight increases in both the Injury/Illness rate and Lost Workday / DART Case incident rate since 2015 for the production and drilling categories (slide 5 and slides 12-14)
- Oil Spill Volumes have increased
 - The large volume (> 10 BBL) oil spill incident rate continues to increase in 2017, primarily due to two large volume spills (38 BBL and 16,152 BBL) (slide 23)
 - The largest spills since 2015 came from compromised subsea infrastructure (2,100 BBL in 2016 and 16,152 BBL in 2017)
- BSEE enforcement
 - Significant decreases in INC rates for both drilling and production categories (slides 26-27)

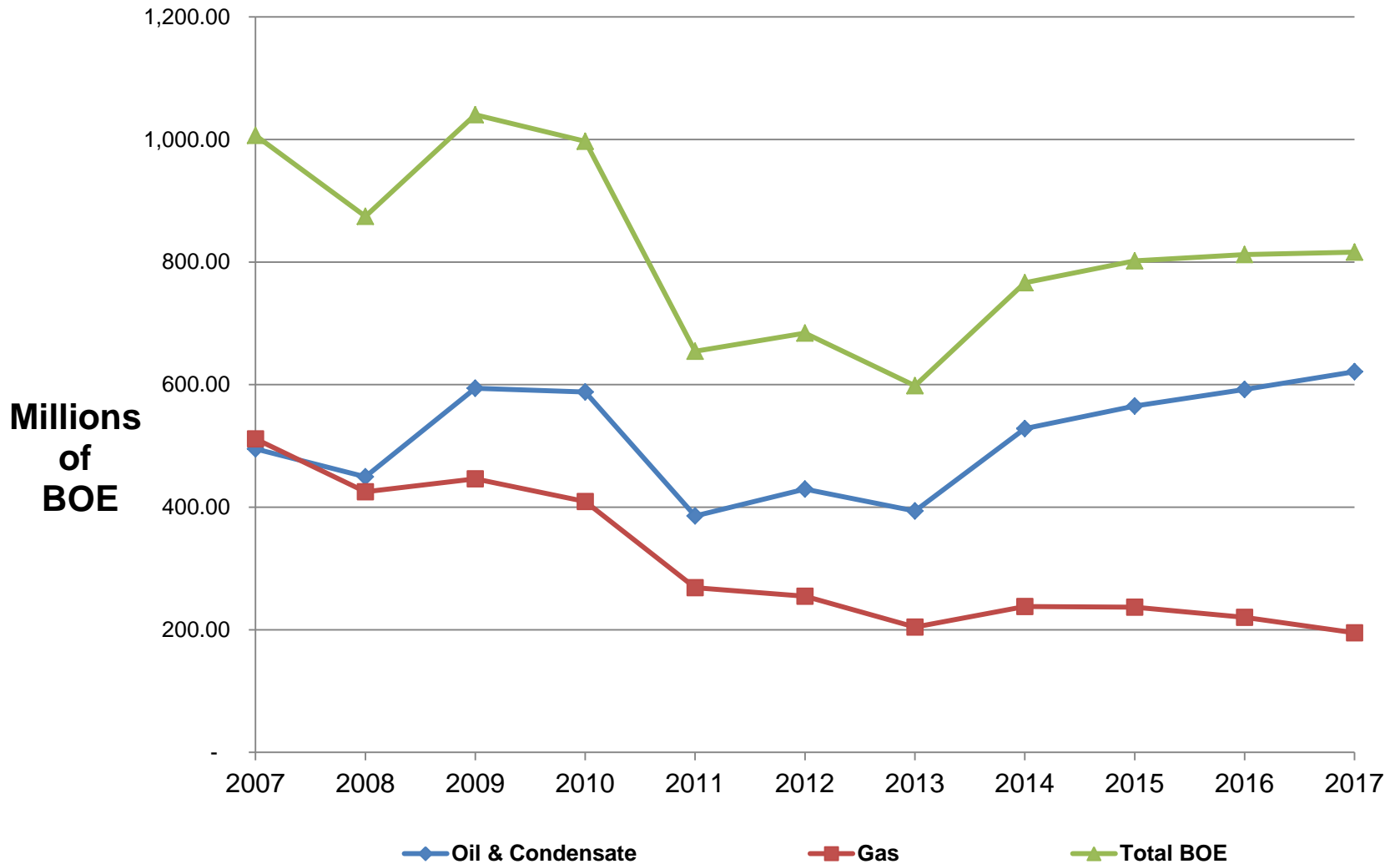
OCS vs Industry-Wide Injury/Illness Rates*

- The injury/illness rates for all oil and gas (O&G) categories (production, drilling and construction) **on the OCS** are trending lower than the rates for the **O&G industry overall**.



* The industry-wide illness/injury rates are from the Bureau of labor Statistics table: "TABLE 1. Incidence rates¹ of nonfatal occupational injuries and illnesses by industry and case types, 2016". 2017 industry-wide data will be added when it is available. These rates use the same formula that BSEE uses, which is [injuries/illnesses] / [total number of work hours] * 200,000. Each set combines both employee recordable injuries/illnesses with the DART injuries/illnesses (Days Away from work, job Restricted, and job Transfer). The industry-wide rates include both offshore and land-based oil and gas activities.

Total OCS Oil and Gas Production



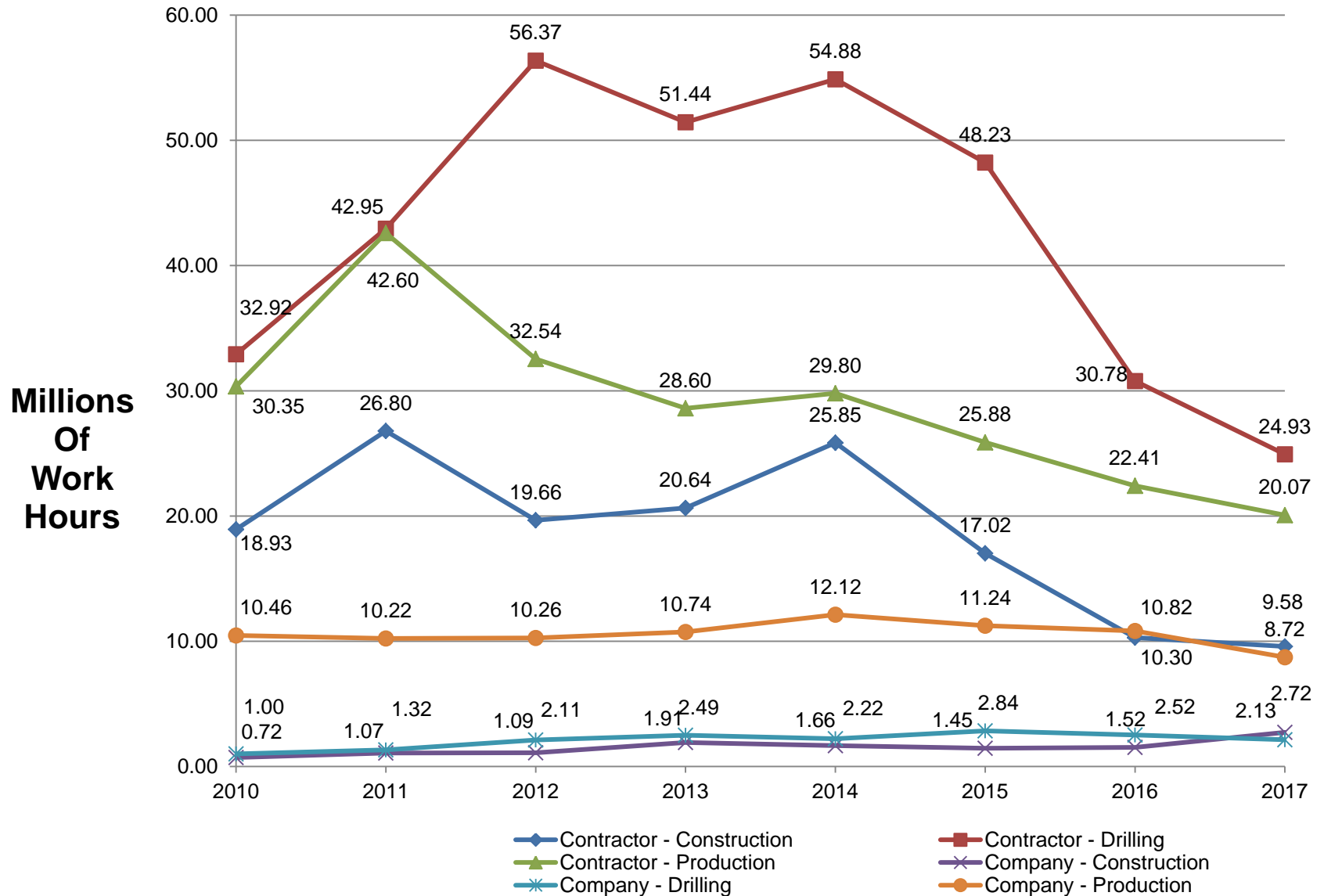
BOE = Barrels of Oil Equivalent. Gas production is converted into BOE so that it can be compared to actual barrels of oil.

Total OCS Work Hours

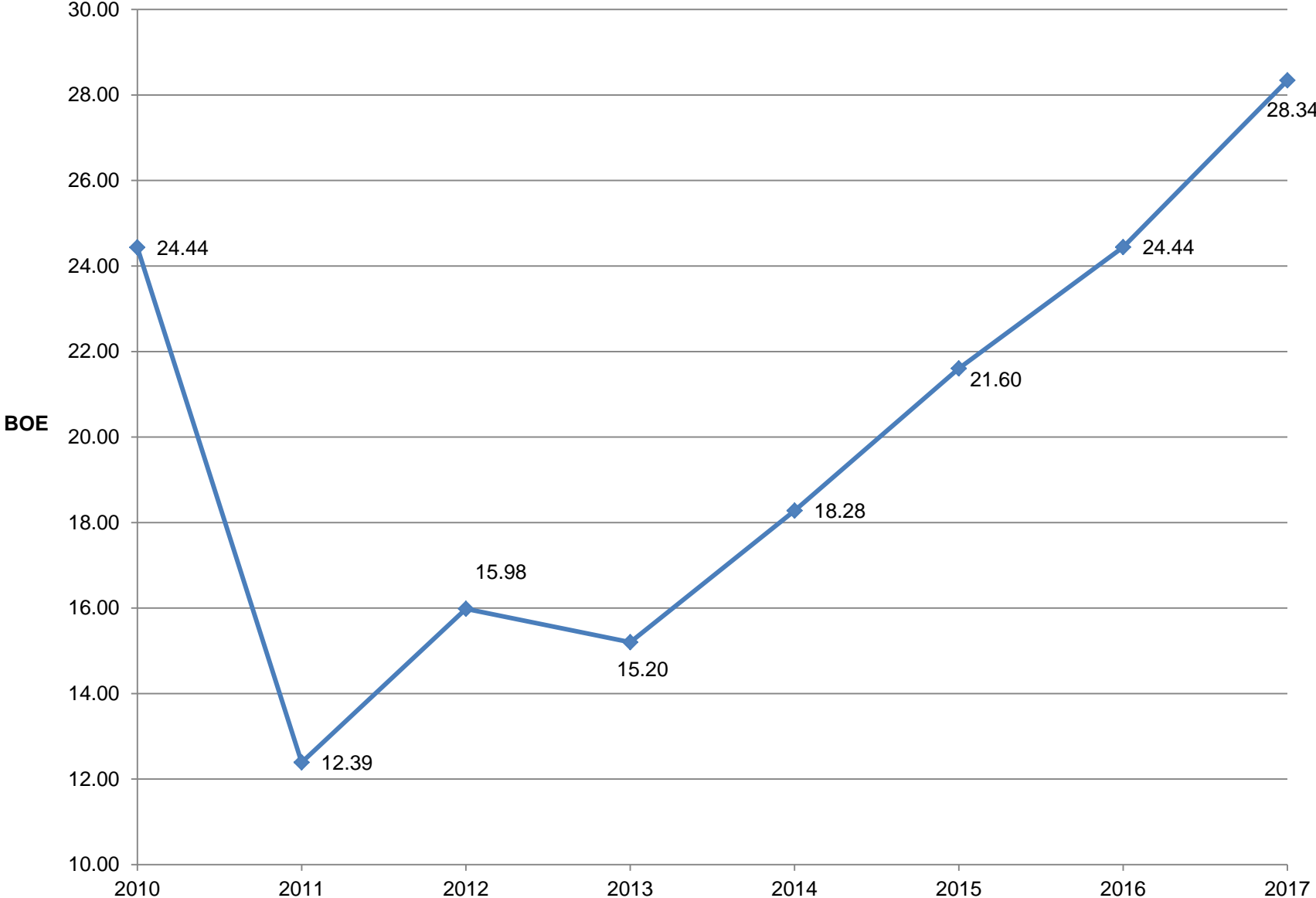


Total OCS Work Hours

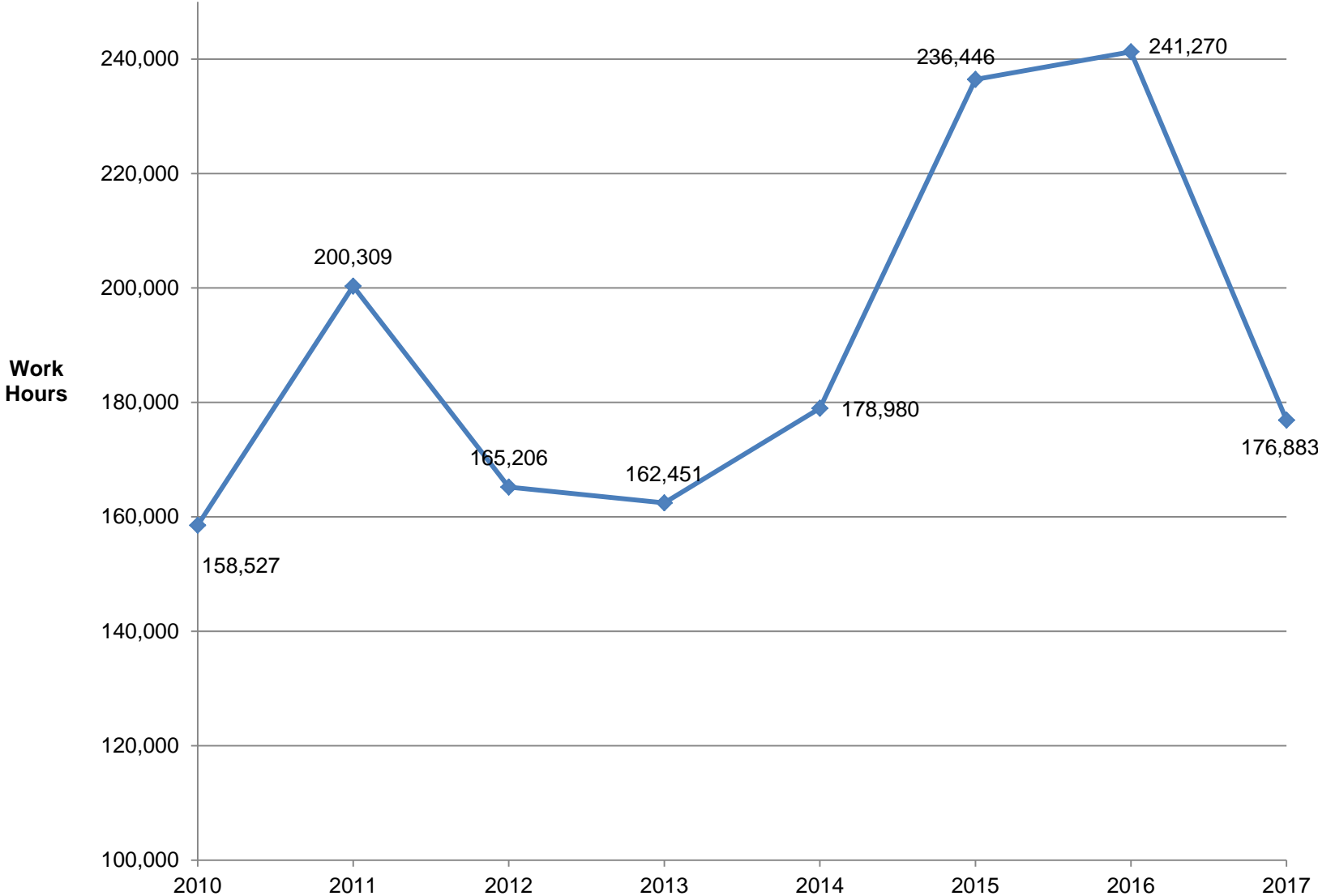
Category, and Company vs Contractor



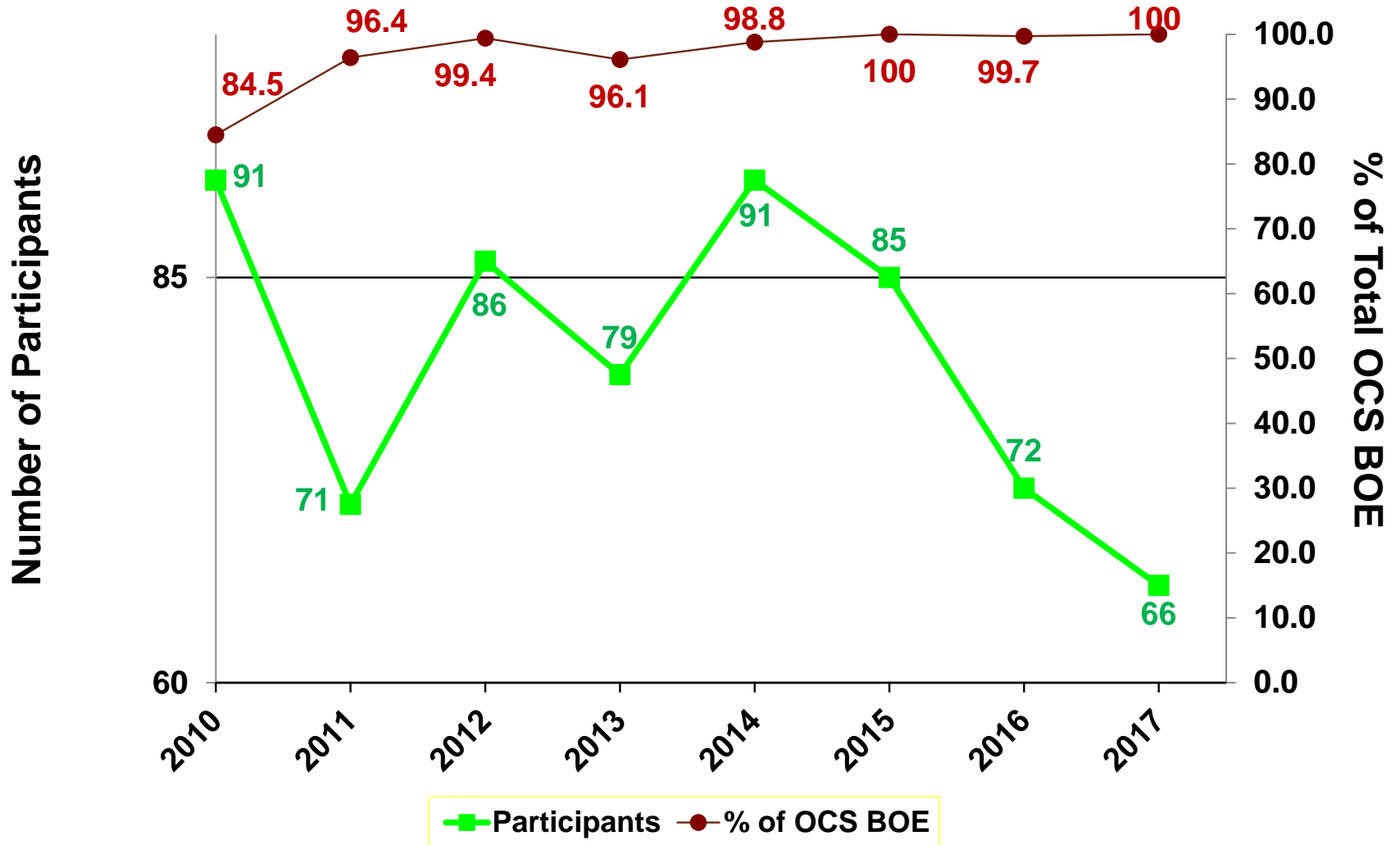
BOE Production Per Production Work Hour



Drilling Work Hours per Well Spud

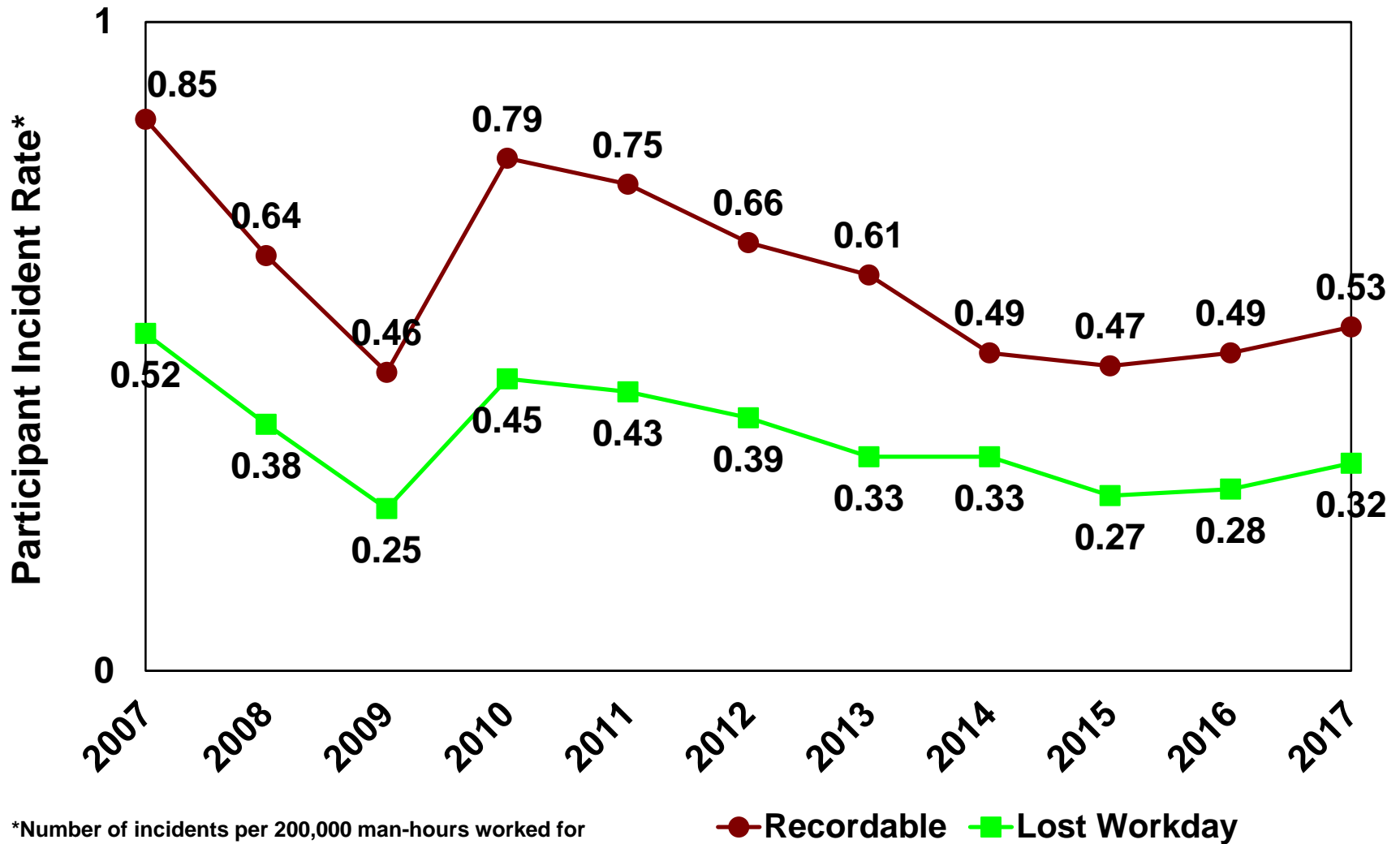


OCS Performance Data Survey Participation*



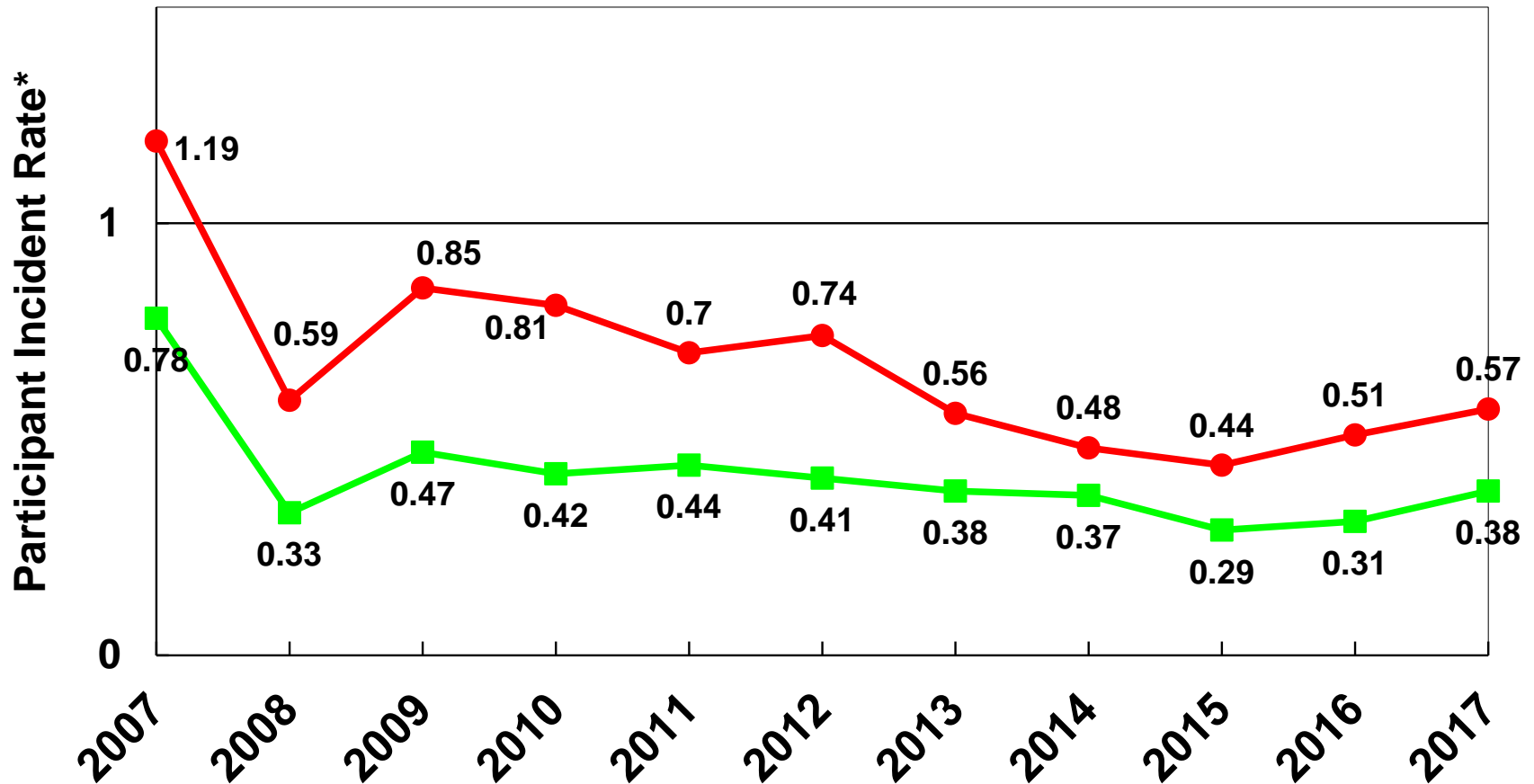
*2010 was the first year that OCS Performance Measure Data were required by BSEE regulation (30 CFR 250.1929).

Combined Operations Recordable and Lost Workday/DART Case Incident Rates*



*Number of incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

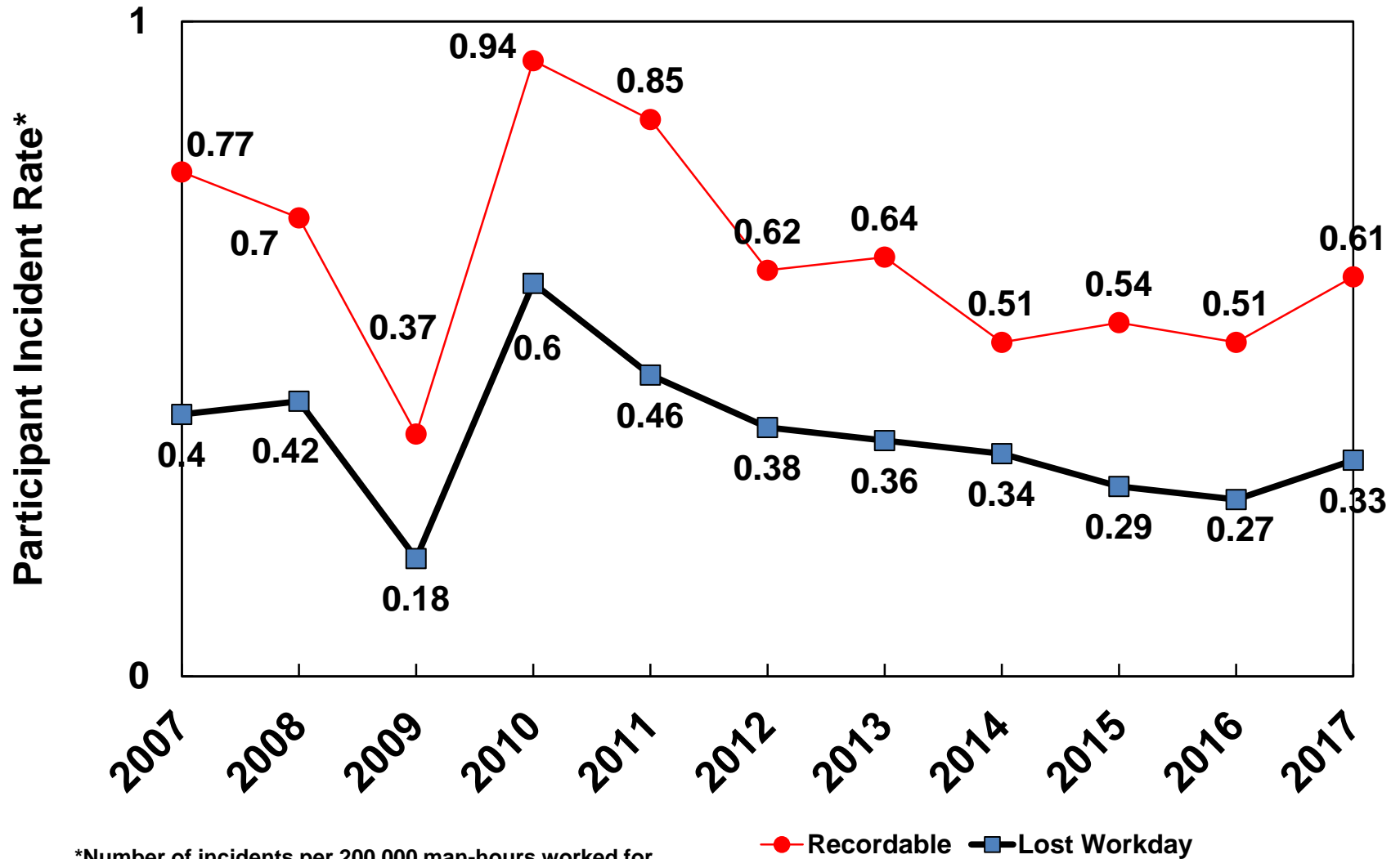
Production Operations Recordable and Lost Workday/DART Case Incident Rates*



*Number of incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

● Recordable ■ Lost Workday

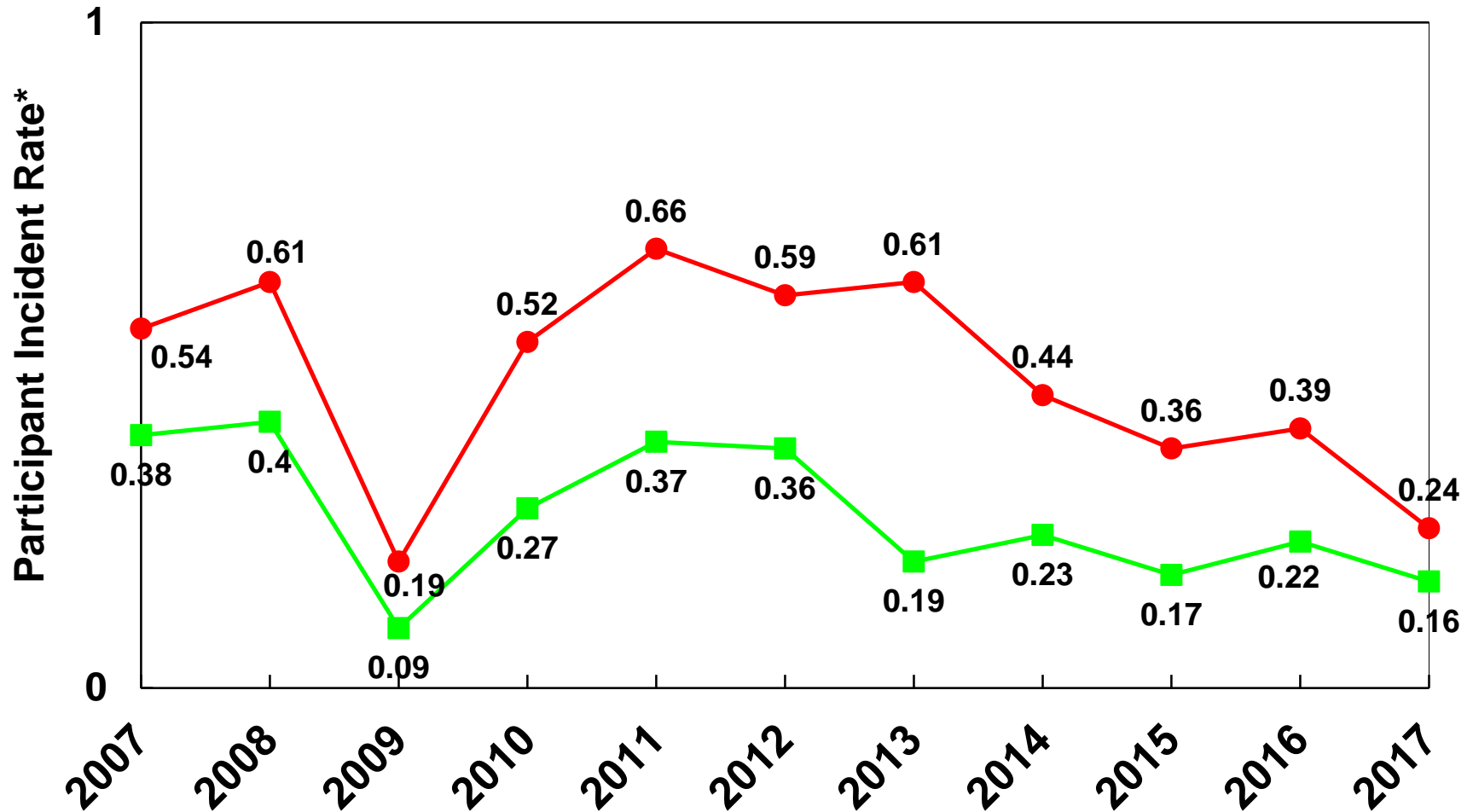
Drilling Operations Recordable and Lost Workday/DART Case Incident Rates*



*Number of incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

● Recordable ■ Lost Workday

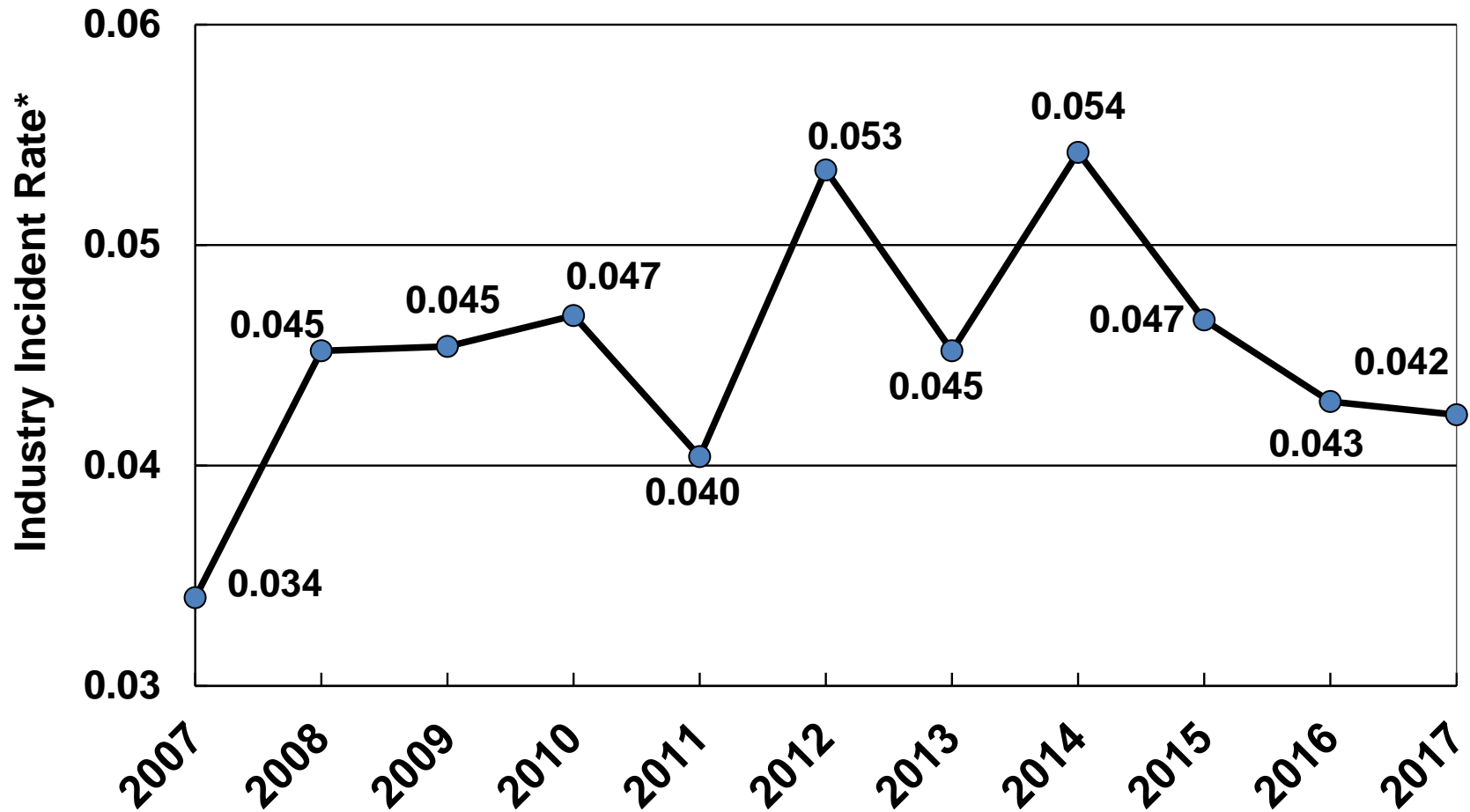
Construction Operations Recordable and Lost Workday/DART Case Incident Rates*



*Number of incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

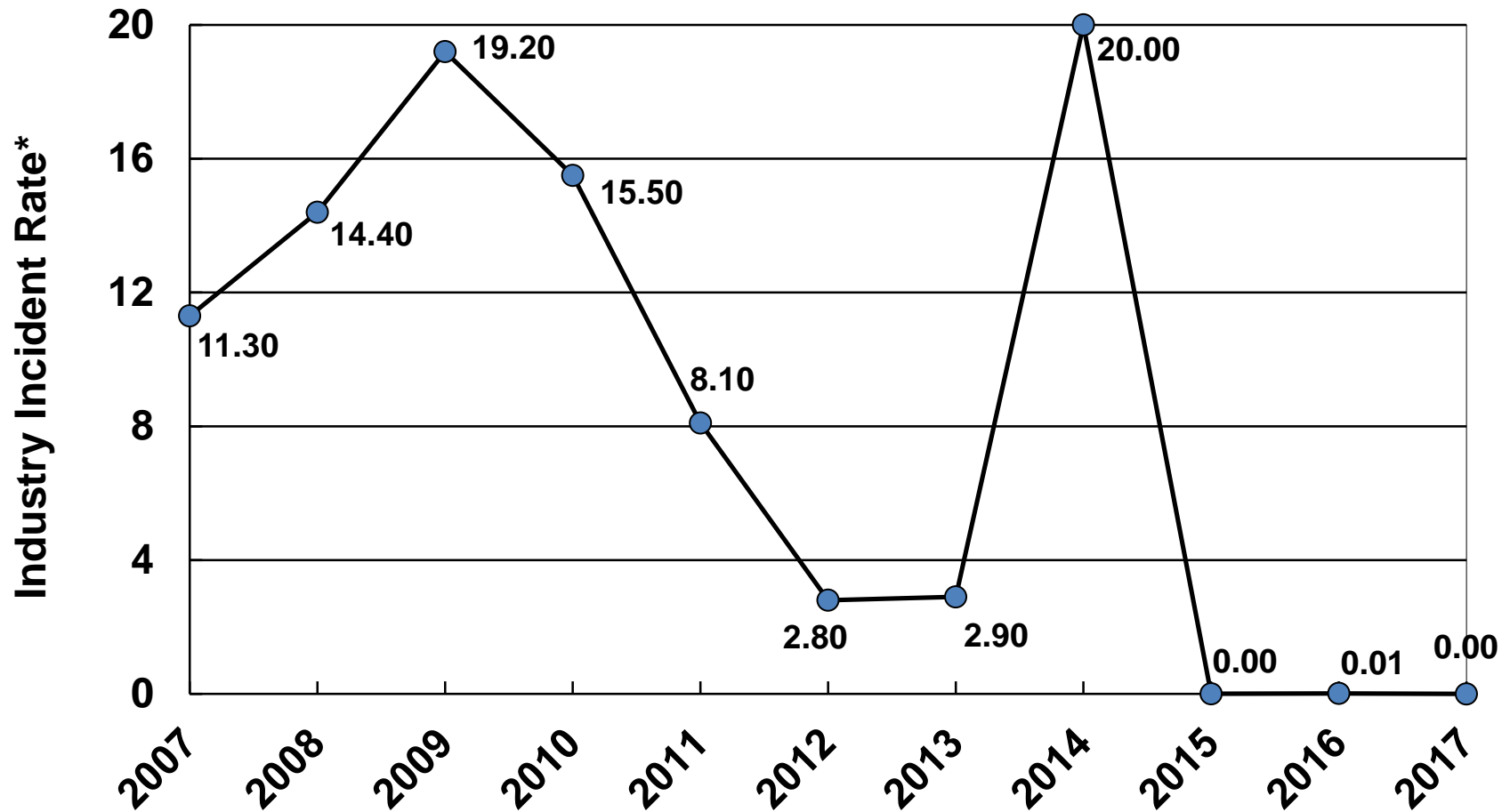
● Recordable ■ Lost Workday

Fire and Explosion Incident Rate*



*Ratio of fires and explosions to number of platforms and wells spudded for entire OCS.

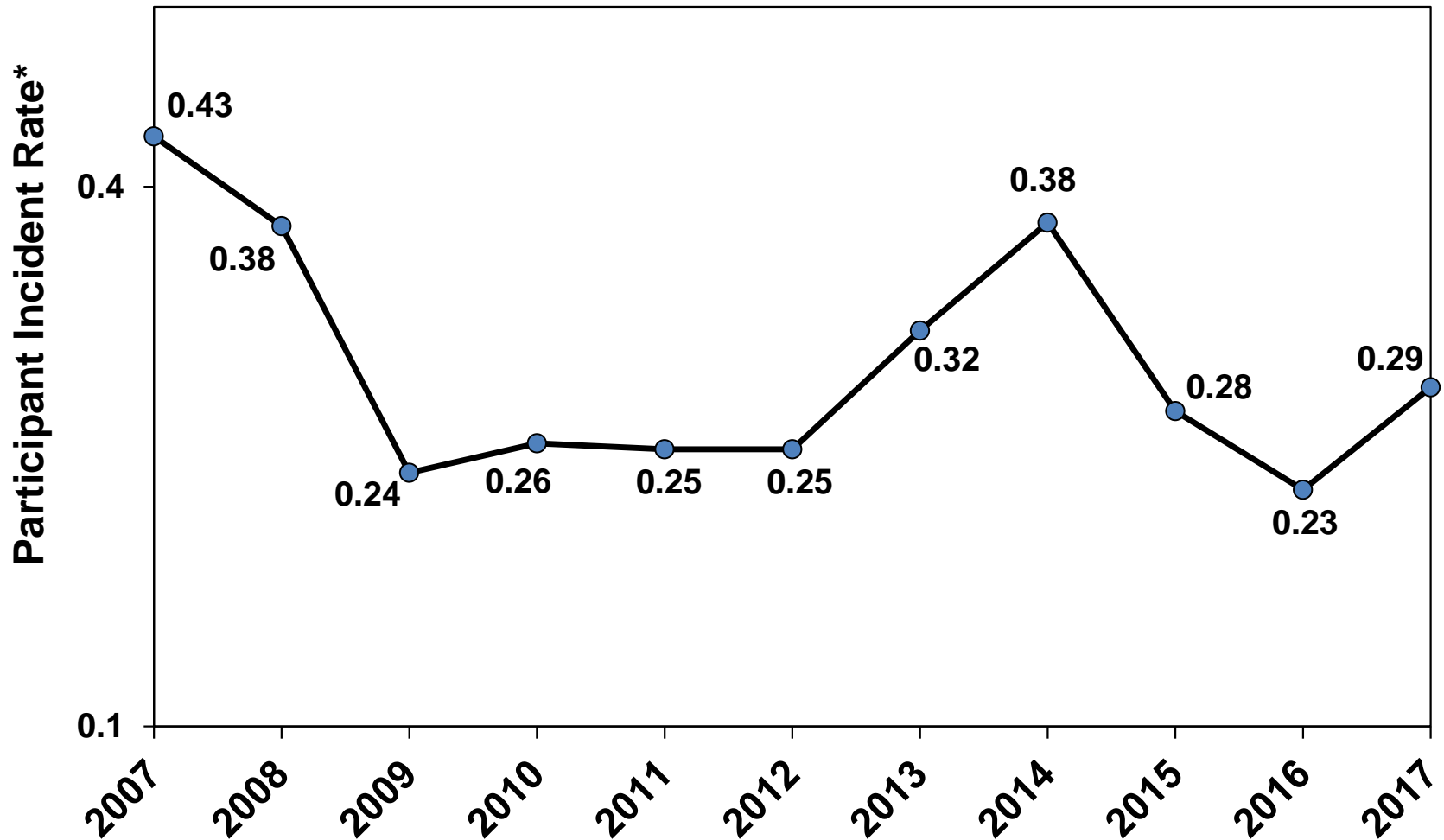
Loss of Well Control Incident Rate*



*Per wells spud for entire OCS. BSEE's incident reporting requirements were changed effective July 17, 2006 to require reporting of all losses of well control. Formerly called "Blowout Rate".

Oil Spill Number Incident Rate

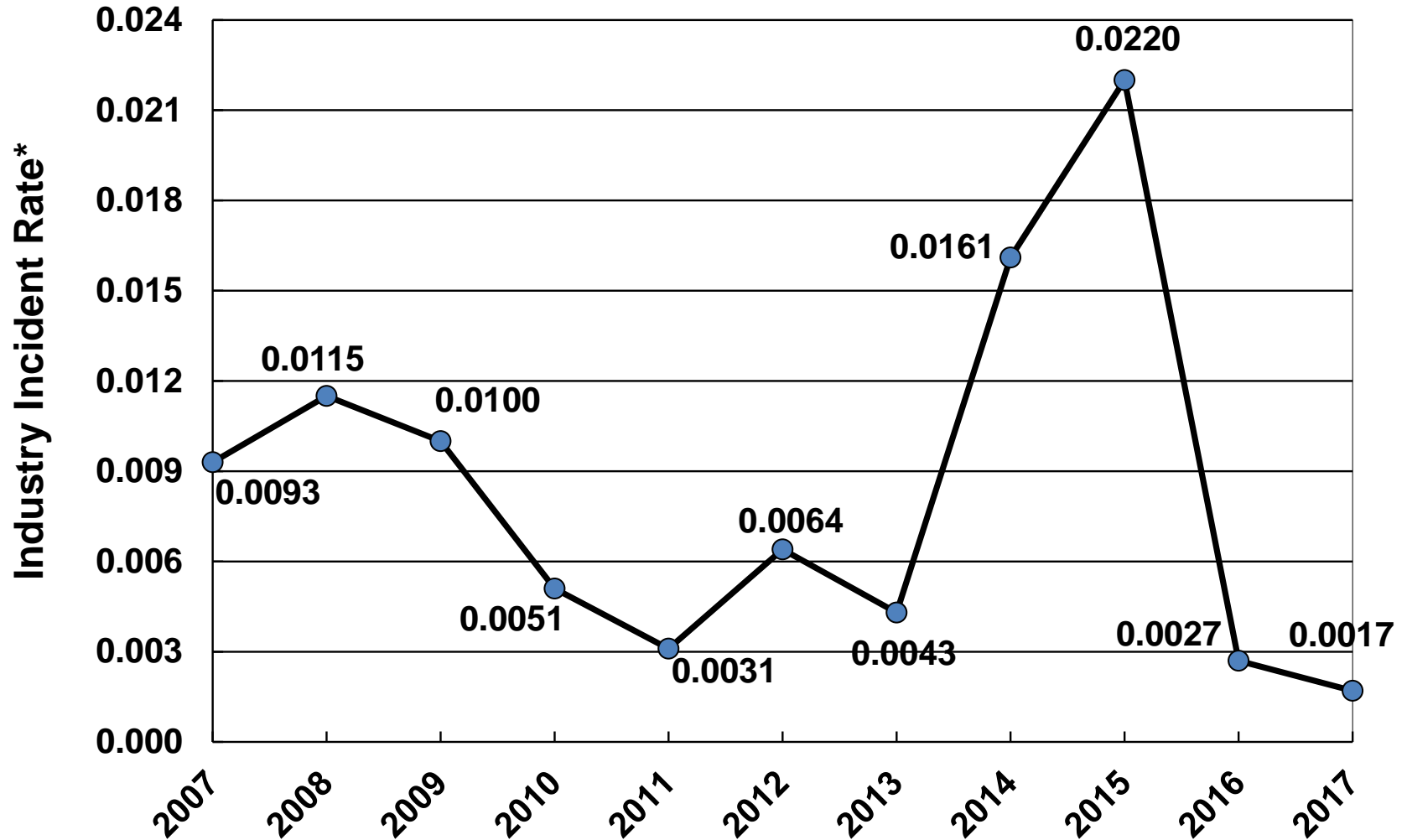
Spills <1 BBL



*Ratio of number of spills < 1 BBL to number of platforms and wells spudded for operators that submitted BSEE-0131 forms.

Oil Spill Number Incident Rate*

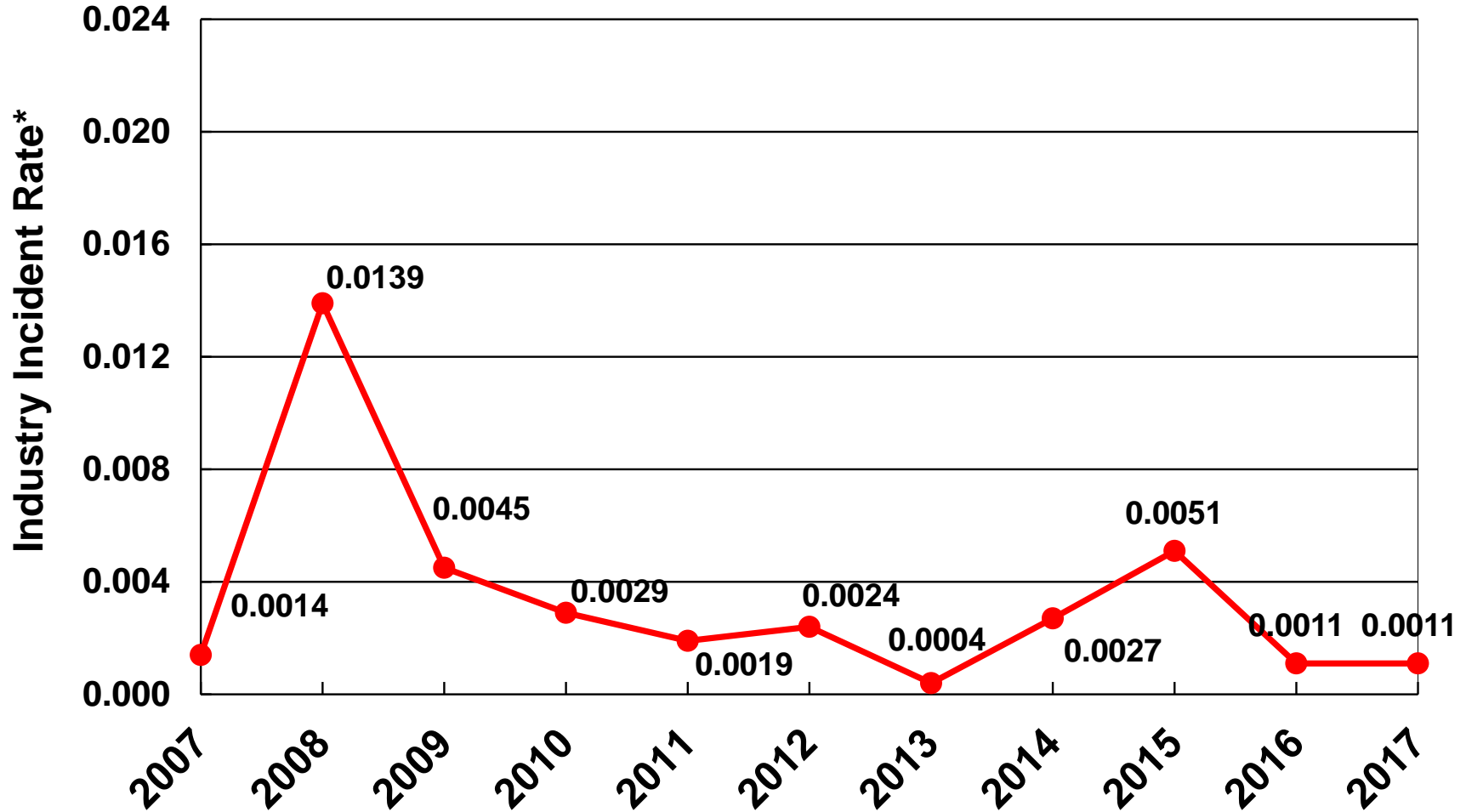
1 < Oil Spills \leq 10 BBL



*Ratio of number of spills between 1 and 10 BBL to number of platforms and wells spudded for entire OCS.

Oil Spill Number Incident Rate*

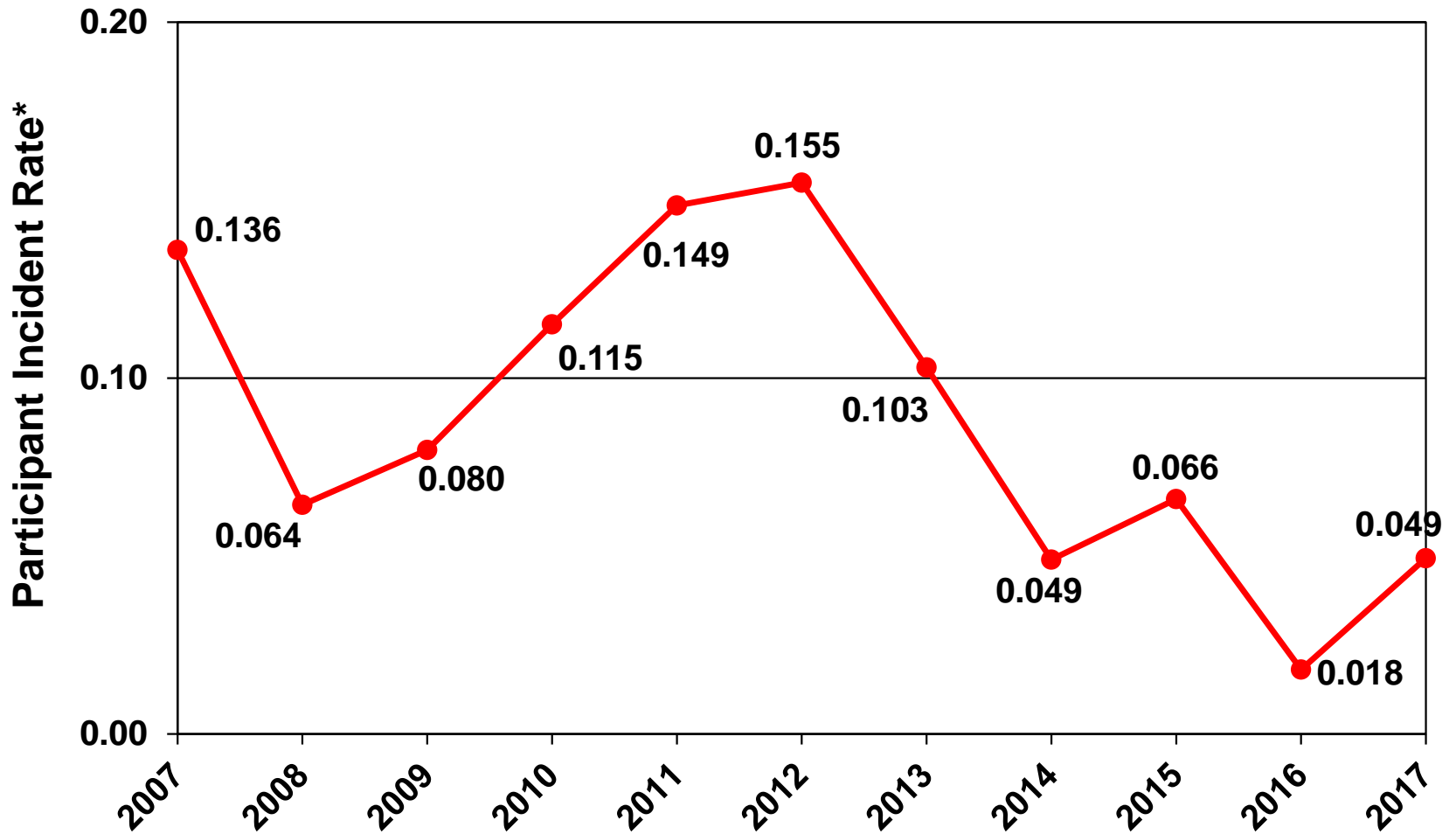
Spills >10 BBL



*Ratio of number of spills greater than 10 BBL to number of platforms and wells spudded for entire OCS.

Oil Spill Volume Incident Rate*

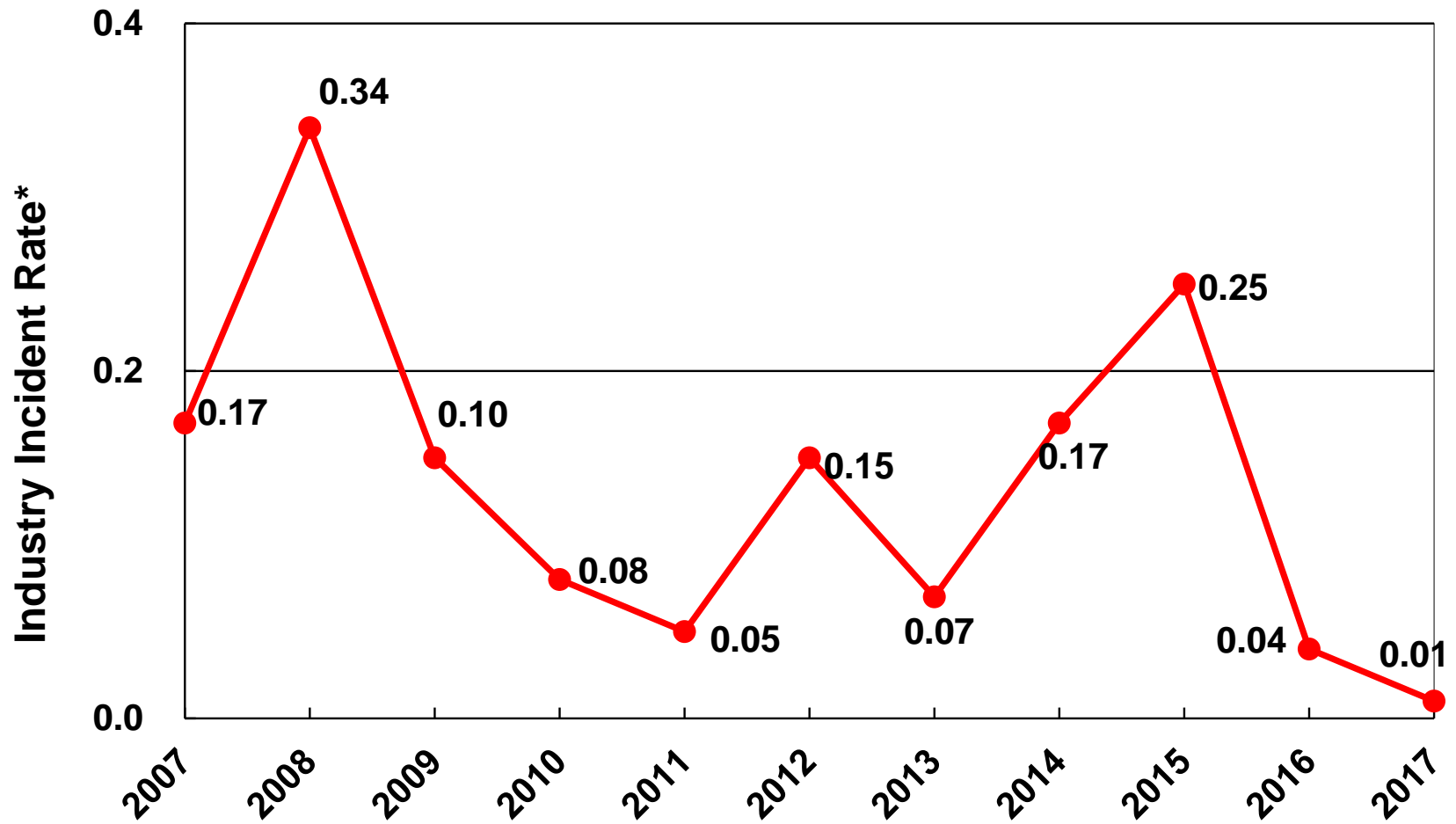
Spills <1 BBL



*Per 1,000,000 BBL of oil produced for operators that submitted BSEE-0131 forms.

Oil Spill Volume Incident Rate*

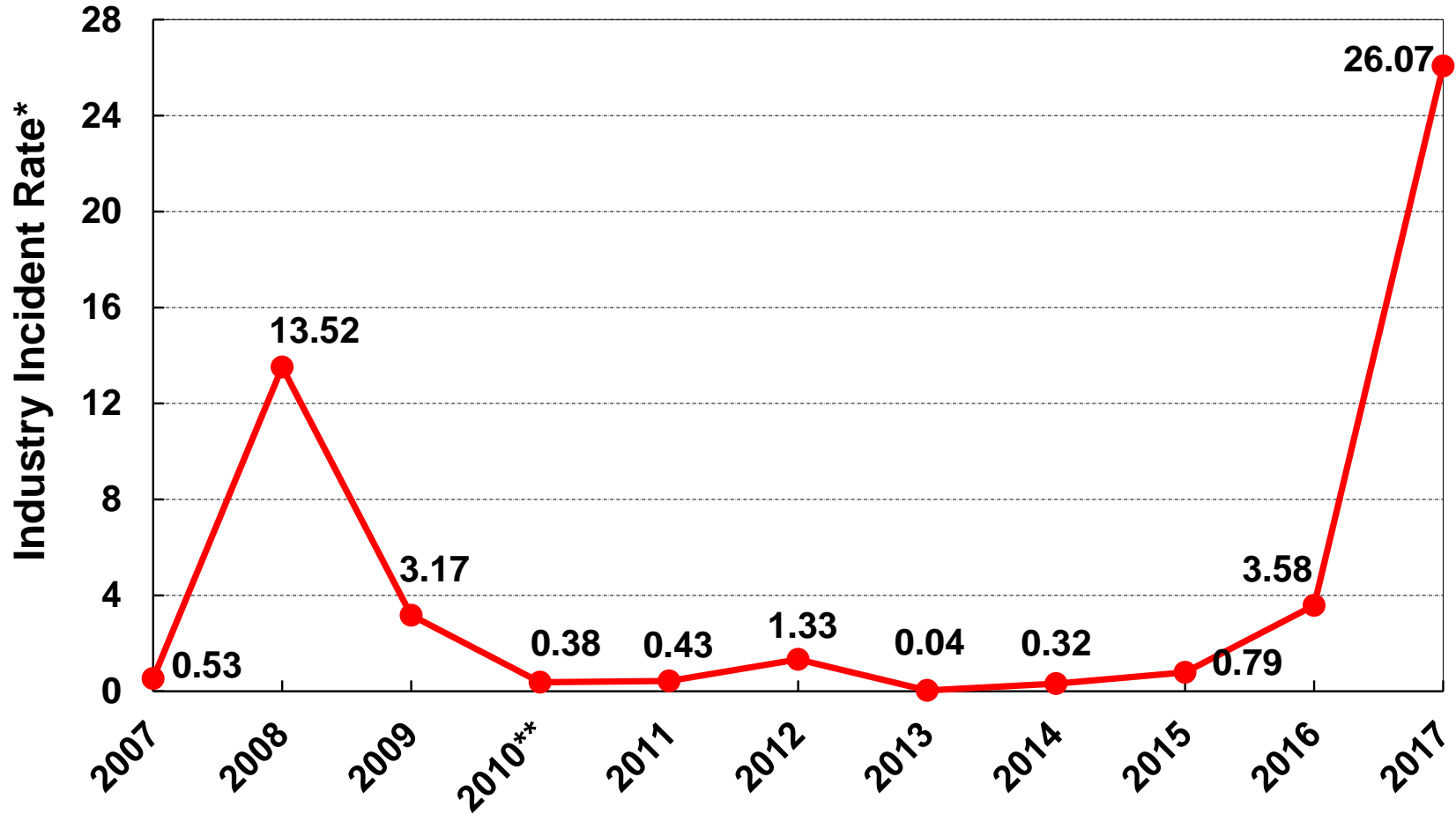
1 < Oil Spills \leq 10 BBL



*Per 1,000,000 BBL of oil produced for entire OCS.

Oil Spill Volume Incident Rate*

Spills >10 BBL

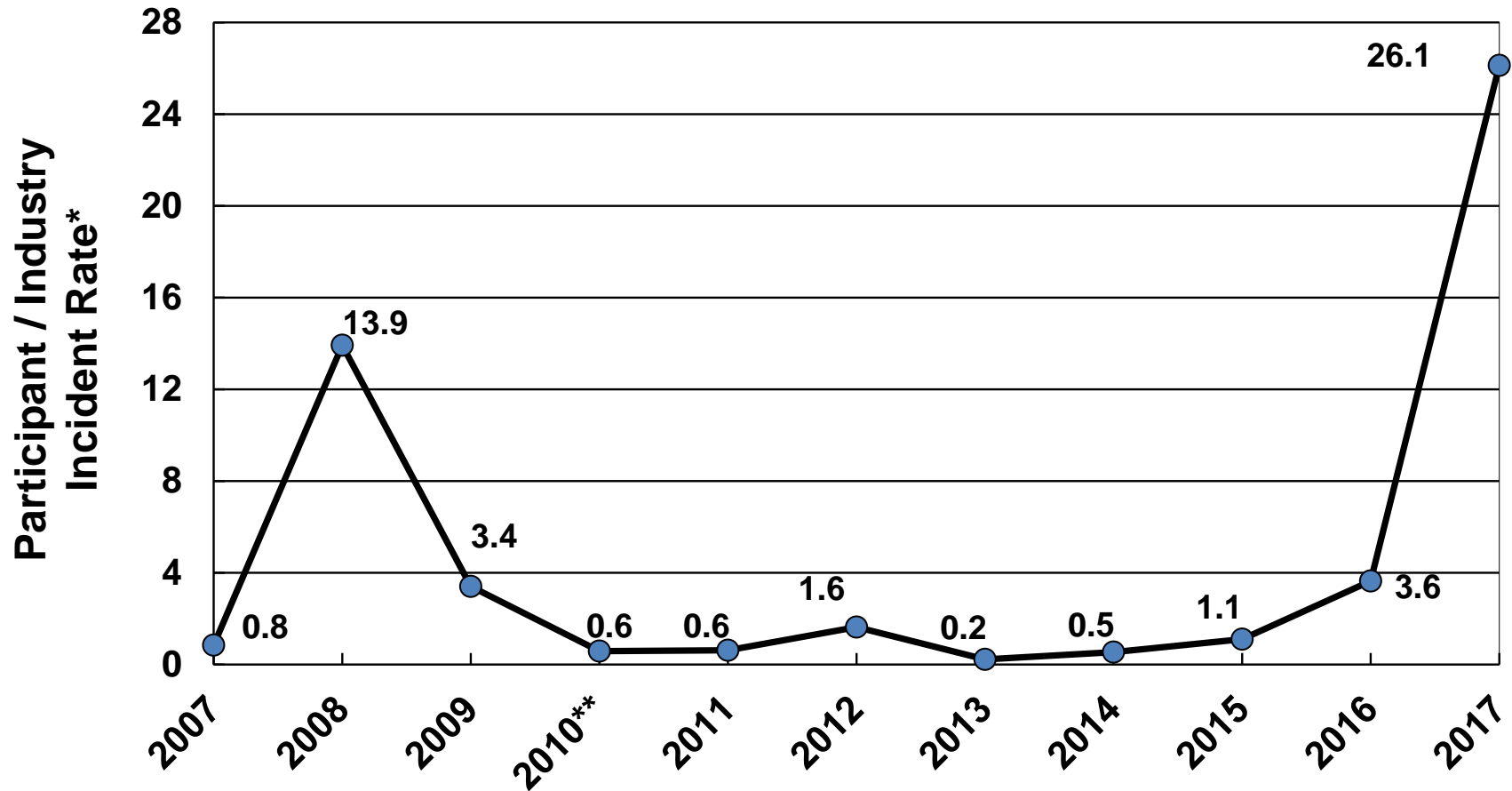


*Per 1,000,000 BBL of oil produced for entire OCS.

**The CY 2010 total volume of oil spilled does not include the volume from the Deepwater Horizon Explosion, which was published by the U.S Coast Guard in an Incident-Specific Preparedness Review as 4,928,100 BBL.

Oil Spill Volume Incident Rate*

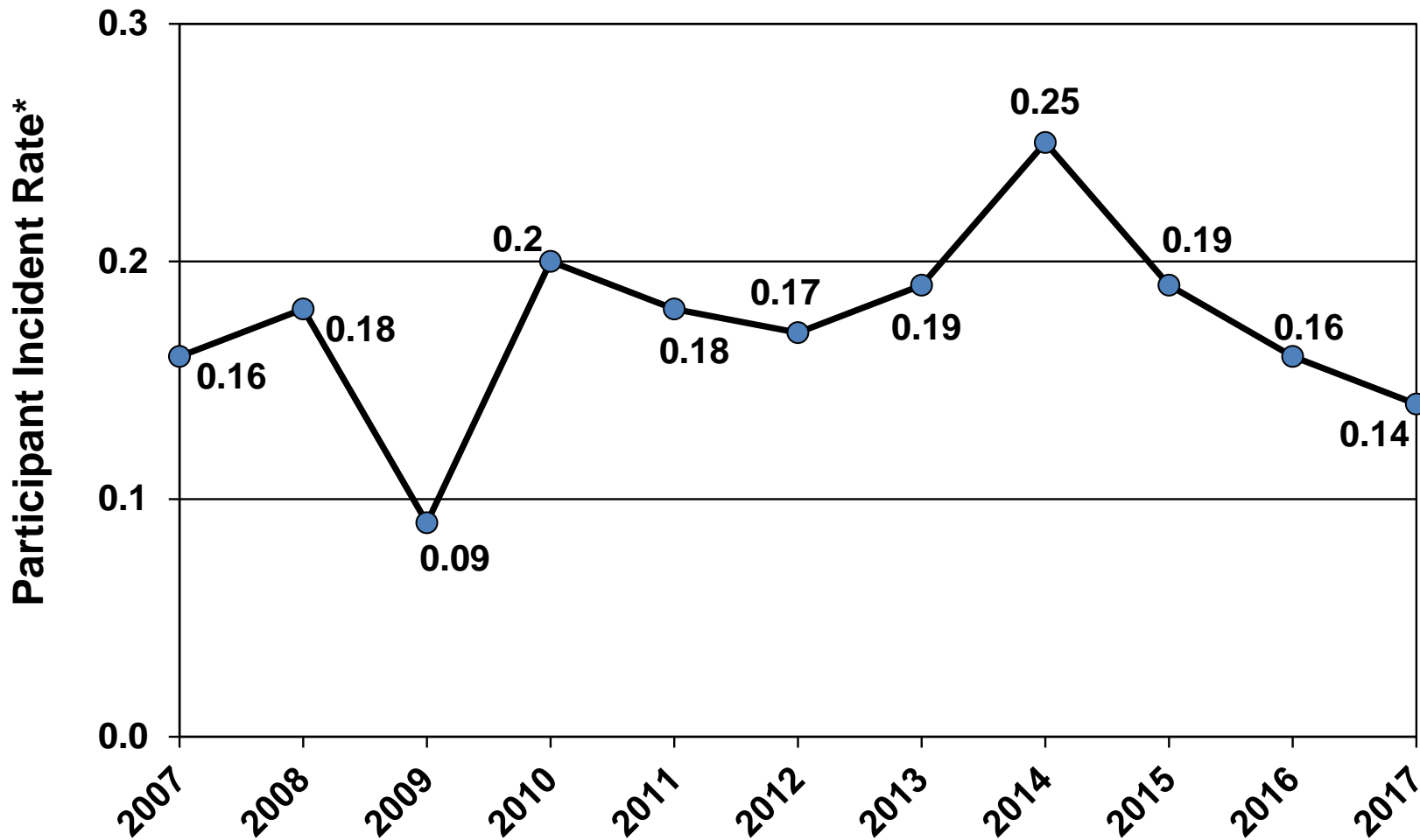
Combined Spills



*Per 1,000,000 BBL of oil produced. Less than one barrel category is a participant industry rate (operators who submitted BSEE-0131 forms), and the one to ten and over ten barrel categories are industry incident rates (entire OCS).

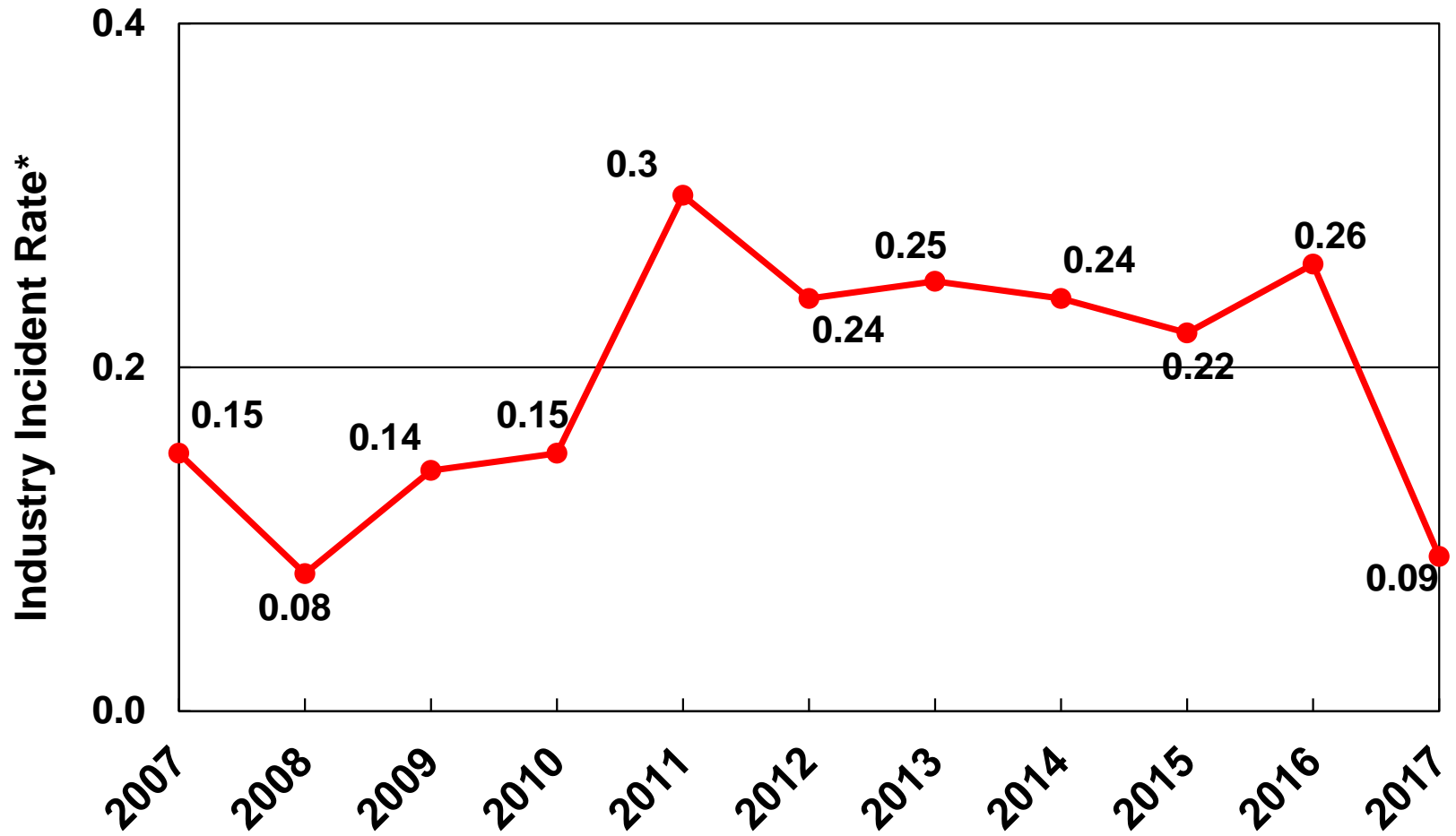
**The CY 2010 total volume of oil spilled does not include the volume from the Deepwater Horizon Explosion, which was published by the U.S Coast Guard in an Incident-Specific Preparedness Review as 4,928,100 BBL.

NPDES Non-compliance Incident Rate*



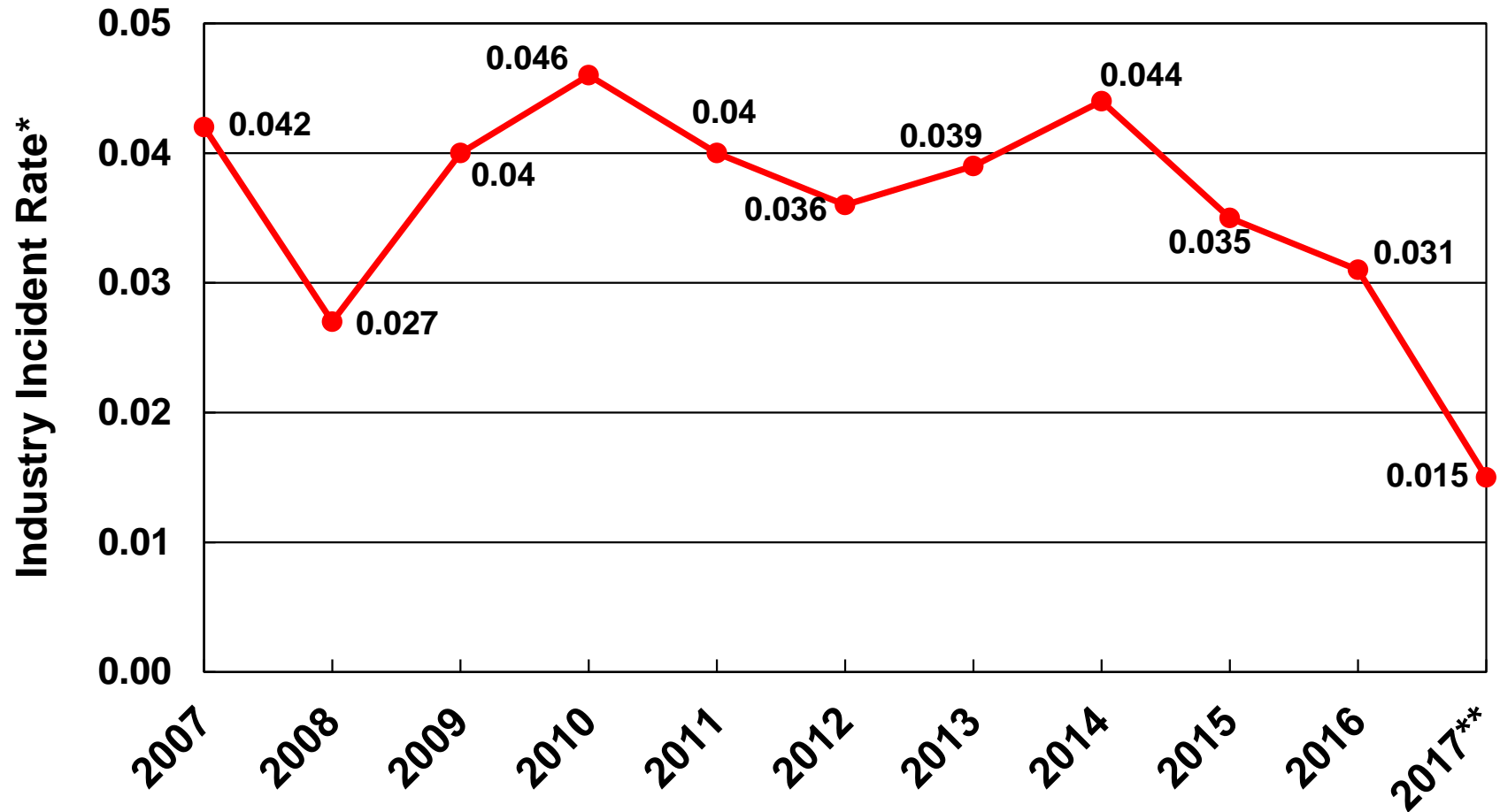
*Ratio of non-compliances to number of platforms and wells spudded for operators who submitted BSEE-0131 forms.

Drilling/Workover INC Incident Rate*



*Ratio of drilling INCs written to number of rigs inspected for entire OCS.

Production INC Incident Rate*



*Ratio of production INCs written to number of components inspected for entire OCS.

**An updated query was used for the 2017 component count (and will be used for future years). The new query results in a higher number of components inspected, and therefore a lower rate, compared to prior years.

BSEE Website: www.bsee.gov



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