SBM OFFSHORE

EXPERIENCE MATTERS

2016

ANNUAL REPORT

including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO_2 or compressed air). Tier 1 represents LOPC events of greater consequence with Tier 2 being those events of lesser consequence.

REVISED DATA

The data for Process Safety reported in 2015 have been revised to expand the scope to include the vessels FPSO *Kikeh* and FPSO *Serpentina*.

6.1.7 ENVIRONMENTAL REPORTING

OFFSHORE

The environmental and process safety offshore performance reporting scope is comprised of 14 offshore units that use the following reporting boundaries:

- Units in the Company's fleet producing and/or storing hydrocarbons under lease and operate contracts during 2016
- Units in which the Company exercises full operational management control
- Units in which the Company has full ownership or participates in a Joint Venture (JV) partnership, where the Company controls 50% or more of the shares

The environmental and process safety performance of the Company is reported by region: Brazil, Angola, North America & Equatorial Guinea and Asia. Based on the criteria stated above, SBM Offshore reports on the environmental performance for the following 14 vessels:

- Brazil – FPSO *Espirito Santo*, FPSO *Capixaba*, FPSO *Cidade de Paraty*, FPSO *Cidade de Anchieta*, FPSO *Cidade de Ilhabela,* FPSO *Cidade de Marica,* FPSO *Cidade de Saquarema*
- Angola – FPSO *Mondo*, FPSO *Saxi Batuque* and *N'Goma* FPSO
- North America & Equatorial Guinea – FPSO *Aseng*, MOPU Deep Panuke, FPSO *Turritella*
- Asia - FSO *Yetagun*

The environmental offshore performance reporting methodology was chosen according to the performance indicators relative to GRI and IOGP guidelines. This includes:

- Greenhouse Gases, referred to as GHG which are N_2O (Nitrous Oxide), CH_4 (Methane) and CO_2 (Carbon Dioxide)
- GHG emissions per hydrocarbon production from flaring and energy generation
- Non Greenhouse Gases which are CO (Carbon Monoxide), NO_x (Nitrogen Oxides), SO_2 (Sulphur Dioxide) and VOCs (Volatile Organic Compounds)
- Gas flared per hydrocarbon production, including gas flared on SBM Offshore account
- Energy consumption per hydrocarbon production
- Oil in Produced Water per hydrocarbon production

SBM Offshore reports some of its indicators as a weighted average, calculated pro rata over the volume of hydrocarbon production per region. This is in line with the IOGP Environmental Performance Indicators.

ONSHORE

SBM Offshore reports on its onshore scope 1 and 2 emissions[31] by operational control and discloses on the following locations; Netherlands, Monaco, Malaysia, United States of America, Brazil, Switerland and Canada. Efforts are being made to extend the reporting scope to include all shore bases. SBM Offshore does not have absolute targets as the Company is focused on the maturity of its data collection.

For the onshore energy usage, the Company uses the World Resources Institute Greenhouse Gas Protocol (GHG Protocol) method to calculate CO_2 equivalents. CO_2 equivalency is a quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO_2 that would have the same global warming potential (GWP),

[31] The World Resources Intitute GHG Protocol Corporate Standard classifies a company's GHG **emissions** into three '**scopes**'. **Scope 1 emissions** are direct **emissions** from owned or controlled sources. **Scope 2 emissions** are indirect **emissions** from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. SBM Offshore does not disclose its scope 3 emssions.

when measured over a specified timescale (generally, 100 years).

Construction Yards environmental data, specifically emissions, energy and water usage have not been included in scope. SBM Offshore is aware that the construction yards may have a large impact on the environment and have identified this as part of its licence to grow under the initiative 'Manage Environmental Impact'.

ATMOSPHERIC EMISSIONS

The calculation of air emissions from offshore operations units uses the method as described in the EEMS-Atmospheric Emissions Calculations (Issue 1.810a) recommended by Oil & Gas UK (OGUKA). SBM Offshore uses the GHG Global Warming Potentials from the Second Assessment Report issues by Intergovernmental Panel on Climate Change (IPCC).

Emissions reported in the Company's emissions records include:

- GHG emissions for the production of energy. Records of GHG emissions from steam boilers, gas turbines and diesel engines used by the operating units.
- GHG emissions from gas flared. Records of the volume of gas flared below the limit defined by the Client, above the limit attributable to SBM Offshore account or at the request of the client to optimize production.

OFFSHORE ENERGY CONSUMPTION

The energy used to produce oil and gas covers a range of activities, including:

- Driving pumps producing the hydrocarbons or re-injecting produced water
- Heating produced oil for separation
- Producing steam
- Powering compressors to re-inject produced gas
- Driving turbines to generate electricity needed for operational activities.

The main source of energy consumption of offshore units is Fuel Gas and Marine Gas Oil.

OIL IN PRODUCED WATER DISCHARGES

Produced water is a high volume liquid discharge generated during the production of oil and gas. After extraction, produced water is separated and treated (de-oiled) before discharge to surface water. The quality of produced water is most widely expressed in terms of its oil content. Limits are imposed on the concentration of oil in the effluent discharge stream (generally expressed in the range of 15-30 ppm) or discharge is limited where re-injection is permitted back into the reservoir. The overall efficiency of the oil in water treatment and as applicable reinjection can be expressed as tonnes of oil discharged per million tonnes of hydrocarbon produced.

Incidental environmental releases to air, water or land from the offshore operations units are reported using the data recorded in the Single Reporting System (SRS) database. SBM Offshore has embedded a methodology for calculating the estimated discharge and subsequent classification within the SRS tool.

WASTE

In line with the GRI requirements, SBM Offshore reports on hazardous and non-hazardous waste outputs. The reporting methodology is detailed in each Unit's Waste Management procedure which is part of Environmental Management System Manual. Collected information is based on manifests issued by the installations in compliance with Client requirements.

REVISED DATA

The Environmental data reported in 2015 have been revised for the two following reasons:

- Improved methodology : one of the recommendations taken from the CO_2 Challenge was to update the oil and gas densities by using the most up-to date information provided by either independent gas analysis reports or offshore daily reports. This appears to be a more realistic approach as the oil and gas properties will change overtime and follow the well evolution. This change has been applied in environmental emissions reporting for 2016 but also for 2015 to be able to compare this year's

data with 2015. The actual energy and emissions data in 2015 were approximately 9% lower than the figures reported in the Annual Report 2015.

- Increased internal controls : data consolidation and calculations have been automated resulting in the identification of inconsistencies in some of the 2015 reported environmental data. This inconsistency was already present in the 2014 reported data hence the change does not impact the view on performance. Using the previous methodology, the following figures should have been reported in the Annual Report 2015:

Revised Data for 2015	2015 Annual Report	Revised 2015 Annual Report[1]
Offshore energy consumption – Scope 1 (GJ)	30,884,199	41,511,408
Offshore energy consumption per production (GJ/T HC)	0.92	1.23
Nitrogen oxides (NO_x) (T)	7,421	6,766
Sulphur dioxides (SO_2) (T)	172	16,084
Oil in produced water discharges per production (T/ 10^6 T HC)	2.92	2.55

1 These figures do not take the new oil and gas densities into account (hence differs from the ones reported in section 6.2.2 Environment.

6.1.8 HUMAN RESOURCES REPORTING

The Company's Human Resources data cover the global workforce and are broken down into parts which are: operating units, employment type, gender and age. The performance indicators report the workforce status at year end December 31, 2016. It includes all staff who were assigned on permanent and fixed-term contracts, employee hires and departures, total number of locally-employed staff from agencies and all crew working on board the offshore operations units.

Human Resources considers:

- 'Permanent' employees as a staff member, holding a labor contract for either an unlimited or a defined period (or an offer letter for an unlimited period in the USA). Permanent employees are recorded on the payroll, directly paid by one entity of the SBM Offshore Group.
- 'Contractors' as an individual performing work for or on behalf of SBM Offshore, but not recognized as an employee under national law or practice (not part of SBM Offshore companies payroll, they issue invoices for services rendered).
- 'Subcontractors' are not considered as staff in the HR headcount breakdown structure. This population is managed as temporary service and are not covered by HR processes policies.

For reporting purposes certain performance indicators report on Construction Yard employees separately. Construction Yard employees for Human Resources reporting purposes consist of employees for yards located in Brazil and Angola. Construction Yard employees constitute a non-traditional type of SBM Offshore workforce who work in construction yards, which SBM Offshore owns and/or operates via a joint venture and could be allocated to non-SBM Offshore projects. SBM Offshore includes the Brasa Yard in Brazil and the Paenal yard in Angola in its reporting scope based on partial ownership and operational control including human resource activities and social responsibility for the employees.

Certain differences may potentially arise between the headcount numbers reported by Finance and HR. This is due to a disparity in the reporting structure of each function's data and how employees – who opted for the Voluntary Departure Scheme and are under notice period – have been reported. Turnover has been calculated as such; number of employees who have left the Company in 2016 (between January 1 and the December 31, 2016) compared with the headcount at January 1, 2016 and the number of newcomers in 2016.

PERFORMANCE REVIEWS/SKILLS MANAGEMENT/TRAINING

In order to ensure personal development and optimal management of performance within the