NORWEGIAN OFFSHORE DIRECTORATE

Guidelines for Annual Status Report for fields in production

Published: 28.06.2024

Revised:

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Introduction

The purpose of this guideline is to describe the topics with the required details set by the authorities for the content of the Annual Status Report (ASR) as well as the framework that applies to submission of the report.

The ASR for fields in production shall be submitted to the Norwegian Offshore Directorate by October 15th each year, cf. Section 47 of the Regulations to Act relating to Petroleum activities and Section 35 of the Resource management regulations. The ASR refers also to the standard Joint Operation Agreement (JOA) set by the Ministry of Energy.

The information given in the ASR shall conform with the prognoses and resource estimates reported to the Revised National Budget (RNB).

The ASR forms an important basis for the authorities' evaluation of whether a field is being operated in accordance with the preconditions in the legal framework, cf. Section 4-1 of Act 29 November 1996 No. 72 relating to petroleum activities (Petroleum Act):

> *Production of petroleum shall take place in such a manner that as much as possible of the petroleum in place in each individual petroleum deposit, or in several deposits in combination, will be produced. The production shall take place in accordance with prudent technical and sound economic principles and in such a manner that waste of petroleum or reservoir energy is avoided. The licensee shall carry out continuous evaluation of production strategy and technical solutions and shall take the necessary measures in order to achieve this.*

The ASR also forms the basis for evaluation of the production permit(s) and stipulation of production schedule etc., cf. Section 4-4 of the Petroleum Act and Section 23 of the Regulations to Act relating to Petroleum activities. This includes permit(s) relating to flaring and cold-venting. The ASR shall also provide information about measurement, measurement system and allocation according to the Regulations relating to fiscal measurement in the petroleum activities Section 95.

The directorate requests the operator to enclose the most recent Long Range Plan (LRP), and the technology strategy for the field, if any. Other relevant information available (detailed studies etc.) may be referred to. Data for fields with several installations and an extensive number of activities may be provided as attachments to the report.

The directorate may ask for further requirements to the content and design of the ASR. If a joint ASR is preferred for two or more fields, please contact the Norwegian Offshore Directorate.

The ASR shall be reported to postboks@sodir.no.

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1. General Field Status

Provide a short summary of the overall status for the field reflected in the content of this report. The information provided in this chapter are intended to be used on our websites FactPages and norskpetroleum.no to update facts and status of the field. Please describe (as briefly and to the point as possible) significant work performed during the last 12 months, the key future activities and key challenges to the field, for instance:

- *Field production/recovery status (is it at plateau, decline or tail end) and main challenges*
- *Measures/plans affecting the recovery and any changes to drainage strategy*
- *Any plans for further development of the field*
- *Any plans for production shutdown (permanent or temporary)*

2. Governance

2.1 Long Range Plan

Describe how the ASR is reflecting the plans managed by the LRP for the field. If possible, show where main activities/projects are linked to the LRP. Comment on the scheduled time for the next LRP update or revision. The most recent LRP and the technology strategy for the field, if any, should be enclosed.

2.2 Risk Management

Ref. JOA article 11.6. present the most recent and highest-level risks and opportunities including main actions to mitigate risks or achieve opportunities. Include a risk matrix and comment on changes in risks from previous year.

2.3 Key Performance Indicators (KPI)

State the strategic and operational performance and improvements by listing the critical indicators of field's progress, actual vs. planned. Explain major deviations.

Table 1- KPI Dashboard

	Unit	YTD Plan	YTD Actuals	Comments
Production Efficiency (PE)	%			
Voidage replacement*	%			
Reserves addition	MSm^3 oe			
CAPEX	MNOK			
OPEX	MNOK			

* Applies for fields having pressure-maintenance

2.4 New Technology

Summarize work within new technology including description of main challenges, prioritized actions and activities during last 12 months. Include technologies evaluated and assessed without being moved forward, as well as technologies introduced and being moved forward to be operationalized.

Provide a short description of highest value initiatives covering planned, ongoing and implemented initiatives within areas such as efficient operations, drilling and completion, increased recovery and environment.

Table 2- Planned, ongoing and implemented initiatives within new technology

Initiative name	Description	Expected impact / value (where applicable/possible)	Planned operational year

3. Reservoir Management

3.1 Drainage Strategy

Provide a summary of reservoir behaviour and drainage strategy including main drainage mechanism as well as any changes (e.g. gas blowdown, low-pressure production, cease of injection).

Describe implemented and planned improvements for reservoir management and production monitoring (e.g. seismic acquisition, reservoir modelling etc) to fulfil the field ambitions. Explain significant changes since last year in in-place volumes and reserves in the field. State current and planned recovery factor for the main reservoirs/deposits.

Illustrate initial and current reservoir pressure and the expected pressure development in the reservoirs/deposits.

Include a map with current field outline and location of installations and wells.

3.2 Improved Recovery

Describe projects for improved recovery (IOR/EOR) implemented or evaluated for the field in the last 12 months and explain how they fulfil LRP targets.

4. Production and Injection

The information supplied in this chapter provides a basis for evaluation and approval of the annual production permits.

Provide a brief account of how targets (production, injection, and pressure maintenance) have been fulfilled during the last 12 months. Compare and illustrate the actual production/injection volumes with the prognosed production/injection volumes and discuss factors that have caused significant deviations. Figures and tables may be included if appropriate.

Summarize revisions related to the current annual production permits and/or separate production permits for gas, including long-term production permits. Significant changes in relation to previous forecasts (RNB) and preconditions must also be summarized. For fields with separate production permit for gas year, include status for any accumulated gas volumes (carry-forward) by October 1st.

Describe the production strategy that forms the basis for production forecasts and planned activities during the upcoming year, and explain the uncertainty and challenges related to the production profiles.

5. Drilling, Completion and Intervention

This chapter should give an overview of well type, well activities and well performance.

Give a high-level description of field's well- and tree-type (single/multi-lateral, smart wells, wet/dry trees).

Provide information about actual costs vs. budget and planned vs. actual productivity/injectivity for wells drilled in the last 12 months. Well performance can be shown as chart and/or text descriptions.

Describe the main challenges related to drilling, completion and well intervention activities for the field, including mitigating actions/technologies. Include an overview of temporary shut-in wells as well as any plans for intervention.

Include the drilling schedule for the next 12 months and show the location of new and planned wells on a map.

6. Operation, Maintenance and Modification (OMM)

Provide a summary of the current situation and activity within the area of OMM for the last 12 months, including any deviations from plans, key challenges, mitigating actions and improvements. Provide a description of ongoing modification projects. For subsea developed fields, limit the description to own infrastructure and any dedicated modules on host platform(s).

Provide a comparison for production efficiency (PE)/regularity between plan/forecast and actuals for the last 12 months, together with a forecast for the next 12 months. An illustration showing development of the PE during recent years may be included. Please show numbers both with and without any turnaround. If the field has several production facilities, relevant and

available numbers should be included. Discuss factors that had an impact on regularity. Significant unexpected shutdowns must be explained.

Describe current energy management and optimization status for the facilities/field. Include Sankey diagrams or similar overview of energy usage and consumption, and various initiatives that can increase the overall performance of a field/facility.

7. Fiscal Measurement

Give a brief account of how requirements in the measurement regulations have been fulfilled during the last 12 months.

7.1 Uncertainties and Deviations

Describe the extent to which uncertainty limits have been met. Explain the reasons for any deviations and what measures have been taken or will be taken to deal with identified deviations.

Provide information on and explain open deviations registered in the deviation handling system.

7.2 Maintenance and Modifications

Describe the status of planned and corrective maintenance for measuring instruments and measuring system. Explain any delays in relation to specified deadlines.

Describe any ongoing and planned modifications including a tentative schedule for calibrations, acceptance tests and commissioning.

8. Environment

Give a short status and improvements of the environmental aspects on the field. Describe the key environmental challenges regarding emissions to air and discharge to sea and how these challenges may have changed since the last ASR.

Explain measures studied the last 12 months including power from shore, more energy-efficient technologies, reduced flaring, and reduced use of chemicals etc.

For fields with process facilities, give a short summary of the flaring and cold venting related to normal operations, planned shutdown operations and unexpected events. Include a summary if modifications for flare gas- or cold vent-recovery are planned for. Provide a graph of the actual flared and cold vented volumes per month (first 9 months) for the current calendar year. In the same graph, include the granted flare and cold vent volumes for the year as well as a prognosis of flare and cold vent for the remaining 3 months.

9. Area Development

This chapter should provide information about activities relating to resources not yet developed. Describe exploration activities in the last 12 months including key challenges and explain deviations from planned activities.

Give a brief description of any plans to explore prospects, leads in the area and undrilled field segments. Explain and make reference to prospects or leads that are no longer part of the field's prospect inventory, compared to the last ASR. A map showing outlines (mean) of prospects and leads should be included.

Describe any major changes in exploration strategy.

Give an overview of the infrastructure capacities (oil, gas, water, weight, space, risers, slots etc). Discuss factors that may restrict current and potential third-party users and further resource development. State any plans for capacity upgrade.

An overview over existing and potential future users of the field's available infrastructure may be included.

10. Field- and Facility Lifetime and Cessation

Describe current technical facility lifetime and expected economic lifetime of the field or facility. Explain the main factors influencing the current expected economic lifetime including factors assumed to influence prolonged lifetime. Refer to lifetime studies, if any.

According to the Petroleum Act, Chapter 5, a decommissioning plan must be submitted to the Ministry of Energy within two to five years prior to the use of a facility ceases. State current timeframe relating to submission of any decommissioning plan and preparation for cessation activities and disposal of facilities.