

OIL AND GAS FIELDS IN NORWAY

INDUSTRIAL HERITAGE PLAN



NORSK OLJEMUSEUM

INTRODUCTION

OBJECT

The project's mandate has been to acquire knowledge about and present a selection of facilities with national value as part of Norway's industrial heritage. By this is meant a choice which first and foremost documents the industry's history, including such elements as geographical range, technical solution, function, organisation and working life, architecture and so forth. This will serve as an overall plan, and provide the basis for prioritising facilities in future work on documenting Norwegian oil activity. That will also contribute to increased awareness of the sector's industrial heritage assets, including administrative practices by government.

BOUNDARIES AND SCOPE

The project embraces fields and installations for petroleum production on the Norwegian continental shelf (NCS). Fields are defined in this context as all facilities naturally linked together in a production system and run by one and the same operator. For that reason, it has not been appropriate to consider each platform separately. The project does not cover mobile drilling rigs and temporary accommodation units (flotels).

MAIN ELEMENTS IN THE INDUSTRIAL HERITAGE PLAN

Developments on the NCS from the 1960s to the present day are initially outlined, detailing the conditions which allowed Norway to develop as an oil and gas nation, the government's role and the rapid technological advances made. The aim has been to show how the sector's material history finds expression. An approach to the material has been chosen which clarifies the background for the choices made by the industrial heritage plan in selecting NCS fields as subjects for future documentation.

The main section of the plan is a survey of all the areas, fields and installations on the NCS. This has been based primarily on knowledge and overviews acquired through the use of available information (including the NPD's databank), without any inspections being conducted. The petroleum fields are briefly described, with information on their development history, licensee structure, geographical location, category (oil, condensate or gas), possible special features, reservoir and recovery strategy, chosen transport methods and development solution, including all installations such as platforms and subsea facilities.

SELECTION CRITERIA AND EVALUATION

During work on the industrial heritage plan, Norway's offshore installations have been subject to an overall assessment of their national conservation value. The continuing discussion about what has national value makes it difficult to give this concept an unambiguous content. One of the main goals is to safeguard the most valuable industrial heritage monuments and sites. That requires a representative selection to be made. The choices presented in this plan aim to illustrate the breadth

of and variation in the types of industrial heritage associated with the sector. They represent various eras and development features to the extent that this is possible and appropriate.

The Ministry of the Environment's 1992 action plan for managing the cultural heritage proposed a number of basic criteria for a cultural heritage monument of national value, and which can provide guidance on selecting components of the country's technical and industrial heritage. The list below shows examples of the selection criteria which have been significant in choosing facilities to be defined as industrial heritage monuments by this plan. The list has been developed on the basis of guidelines from the DCH in collaboration with the steering and reference group for the project.

- The installations represent different development eras
- The first, most important or most representative technology
- Illustrate the breadth in development solutions or platform types
- Special projects
- Unique in a Norwegian or international context
- Economic significance
- Social significance
- Special historical incidents associated with the installations
- Political decisions and debate over the development

On the basis of these criteria, the project's steering and reference group has conducted an integrated assessment of all fields on the NCS. The result is a list of priorities (below) for fields which should be documented for posterity.

Priority areas

Ekofisk area	Balder area
Frigg area	Snorre area
Statfjord area	Grane
Troll area	Ormen Lange
Valhall area	Draugen
Oseberg area	Ula area
Åsgard area	Gullfaks area

The Ekofisk, Frigg and Statfjord areas have already been or are being documented by the Norwegian Petroleum Museum.

FOLLOW-UP OF THE PROJECT

The industrial heritage plan will form the basis for future management of the monuments. That applies to cessation plans, impact assessments or conservation measures. The collective view of the oil and gas sector and the DCH will determine which of the industry's facilities are to be defined as industrial heritage monuments.

Unlike other conservation plans, however, the industrial heritage plan for the petroleum industry will not be followed up by plans for legal protection. Nor is a future management plan envisaged.

Documentation is a conservation tool. It will be relevant for installations on the NCS which, because of their size and complexity, cannot physically be preserved for posterity because of the practical and financial difficulties. The chapter on strategy and measures in report no 16 (2004-2005) to the Storting on living with cultural heritage monuments specifies that *"cultural heritage which cannot be preserved must be documented"*.

Documentation will be a more suitable instrument than preservation for these types of industrial heritage monuments. It ensures that knowledge of their present condition is conserved for posterity. This will be valuable both if the monuments are removed and if they remain standing. In the latter case, the documents can show which changes have occurred to the monuments over a period. Documentation at regular intervals will identify the extent to which a facility or area deteriorates, develops or remains unchanged.

Documenting industrial heritage monuments provides material for research into and communication of Norwegian petroleum history. This accordingly represents a key tool in work on cultural history and an important contribution to knowledge of historical development.

The results of present and future documentation projects can be presented on interactive websites which provide an overview or access to all the documents collected, with opportunities to delve deeper in the associated archives. A website of this kind can convey the history of the workplace and working life as well as the industry's local and regional spin-offs. In this way, the history of the monument will be documented and made available to the general public.

In cooperation with the DCH, the Norwegian Petroleum Museum has developed a method for working on this type of documentation project. The museum collaborates closely in such projects with the National Library and the National Archives in Stavanger. Among other elements, a basic structure has been developed for storing, preserving and retrieving documents.

See the www.kulturminne-ekofisk.no and www.kulturminne-frigg.no websites.

ORGANISATION

The project has been organised with a steering committee, a reference group and a project team. In practice, all meetings have been held jointly by these three bodies.

All the texts have been written by Harald Tønnesen. Gunleiv Hadland collected and processed most of the background material. Valuable suggestions have been made by the steering and reference group, which has also quality-assured the texts.

The project was funded with grants of NOK 800 000 from the MPE, NOK 800 000 from the NPD, and NOK 1 200 000 from the OLF.

GOVERNING DOCUMENTS

Norwegian Cultural Heritage Act (1978)

Ministry of the Environment (1992): *Action plan for managing the cultural heritage*

Report no 61 (1991-1992) to the Storting: *Culture over time*

Norwegian Directorate for Cultural Heritage (1994): *Conservation plan for technical and industrial heritage monuments*

Report no 58 (1996-1997) to the Storting: *Environmental policy for sustainable development*

Ministry of Petroleum and Energy (1999): *Environmental action plan for the petroleum and energy sector*

Report no 24 (2000-2001) to the Storting: *The government's environmental policy and the nation's environmental condition*

Report no 16 (2004-2005) to the Storting: *Living with cultural heritage monuments*

Steering committee

Rolf Wiborg	NPD and MPE
Gustav Rossnes	DCH
Maiken Ims	OLF
Finn E Krogh	Norwegian Petroleum Museum

Reference group

Sveinung Sletten	Petoro
Finn Roar Aamodt	Statoil
Dag Bergslien	ExxonMobil
Jorunn Eia	BP Norge AS
Oddveig Haga	A/S Norske Shell
Dag Olaf Ringe	Total E&P Norge

Project team

Harald Tønnesen	Norwegian Petroleum Museum, project manager
Gunleiv Hadland	Norwegian Petroleum Museum

LIST OF PRIORITIES

Work on the industrial heritage plan has resulted in a list of priority fields. This represents the collective view of the industry, the specialist government agencies and the DCH concerning which facilities on the NCS should be defined as the oil sector's industrial heritage.

The list has been created by observing the links between the historical outline, the overview of offshore installations and the selection criteria which form the basis for assessing industrial heritage value.

Fields awarded an A rating have the highest priority and those with a D have the lowest. Those which interact as a single production entity have been grouped together in areas. If one field in an area has been awarded an A, this rating applies to the whole area.

The list will be an important tool in future work on initiating and defining new documentation projects for fields and installations on the NCS.

Field	Priority	Operator	Field	Priority	Operator
Ekofisk	A	ConocoPhillips	Draugen	B	Norske Shell
Eldfisk	A	ConocoPhillips	Ula	B	BP Norge AS
Embla	A	ConocoPhillips	Tambar	D	BP Norge AS
Tor	A	ConocoPhillips	Blane	D	Talisman (UK)
Albuskjell	A	ConocoPhillips	Oselvar	D	Dong E&P Norge AS
Edda	A	ConocoPhillips	Gullfaks	B	Statoil
West Ekofisk	A	ConocoPhillips	Gimle	D	Statoil
Cod	A	ConocoPhillips	Tordis	C	Statoil
Tommeliten Gamma	A	Statoil	Sleipner	B	Statoil
Frigg	A	Total	Gungne	D	Statoil
North-East Frigg	A	Total	Sigyn	D	ExxonMobil
East Frigg	A	Total	Volve	D	Statoil
Lille-Frigg	A	Total			
Frøy	A	Total	Heimdal	C	Statoil
Odin	A	ExxonMobil	Skirne	C	Total E&P Norge
Statfjord	A	Statoil	Vale	D	Statoil
Sygna	D	Statoil	Alvheim	C	Marathon Petroleum
Murchison	D	CNR International UK Ltd	Volund	D	Marathon Petroleum
Troll	A	Statoil	Vilje	C	Statoil
Fram	D	Statoil	Heidrun	C	Statoil
Valhall	A	BP Norge AS	Varg	C	Talisman
Hod 2/11	D	BP Norge AS	Veslefrikk	C	Statoil
Oseberg	A	Statoil	Huldra	D	Statoil
Brage	D	Statoil			
Tune	D	Statoil	Norne	D	Statoil
Åsgard	A	Statoil	Urd	D	Statoil
Mikkell	D	Statoil	Alve	D	Statoil
Kristin	C	Statoil	Kvitebjørn	D	Statoil
Tyrihans	C	Statoil	Visund	D	Statoil
Yttergryta	D	Statoil	Glitne	D	Statoil
Morvin	C	Statoil	Njord	D	Statoil
Snøhvit	A	Statoil	Enoch	D	Talisman (UK)
			Rev	D	Talisman
Balder	B	ExxonMobil	Gyda	D	Talisman
Ringhorne	B	ExxonMobil	Yme	D	Talisman
Jotun	B	ExxonMobil	Gjøa	D	Statoil
Snorre	B	Statoil	Vega	D	Statoil
Vigdis	D	Statoil	Skarv	D	BP Norge AS
Grane	B	Statoil	Goliat	D	Eni Norge
Ormen Lange	B	Norske Shell			