March, 1997

Implementation Training Manual

FUTOP

General Part

elf

March 1997

FUTOP Implementation Seminar

1	**Introduction**
2	**FUTOP - History & Process**
3	**Production & Maintenance Principles** Initial prioritisation and work split between FCT/FOT and FCT/HOT Production planning and planning of maintenance activities
4	**Definition of Main Functions**
5	**Responsibility & Work Principles** Offshore Organisation Charts Responsibility per Position The Work Permit System
6	**Emergency Organisation**
7	**Planning and Reporting** CRIS^2 (Computerised Reporting & Information System / Condition & Risk based Inspection System) OPTIMIS / MS Project interface
8	**Procedural Changes / Operational Handbook, Frigg & Heimdal**
9	**Group work and Scenarios**

Time	Contents Day 1	Lecturer
09:00 09:15	Opening of the seminar	GWS
09:15 10:00	FutOp History Work method, RCM / RCO Main results w.r.t. Organisational principles, manning and workload.	CH
10:00 10:15	Team understanding & team based work (we know you will meet difficulties! / group dynamics).	CH
10:15 11:15	Production and Maintenance Principles Initial prioritisation and work split between FCT/FOT and FCT/HOT Production planning and planning of maintenance activities Performance Indicators	TB
	BREAK	
11:30 12:00	Onshore / Offshore interface. Main principles Competence mapping and selection of personnel.	CH
12:00 12:30	Definition of Main Function Explanation of the offshore organisation's Authority & Responsibility (Org chart) and team composition Minimum Manning	PR
	LUNCH	
13:15 14:30	Responsibility per position / detailed team composition. Support functions Job & Position Descriptions / Activity lists	PR
14:30 15:00	The Work Permit System	KAS
	BREAK	
15:00 15:15	Emergency organisation, Frigg & Heimdal	HV
15:30 16:15	Planning CRIS/OPTIMIS/MS Project Outline of planning principles with examples. Use of CRIS for experienced feedback and hand over	MB
16:15 16:30	Introduction to procedural changes and revisions	LR
16:30 17:00	Operational Handbook, Frigg & Heimdal	OJ
17:00 17:30	Questions and summary of today's topics. Program for the rest of the evening and briefly about tomorrow	CH
17:30	Departure by buss to Sola Strand Hotel	
19:00	Dinner is served	

Time	Contents Day 2	Lecturer
08:00 08:30	Recapitulation of day 1	PM/OFM
08:30 09:00	Typical day offshore	MB
09:00 09:30	Offshore repair scenario, plenary walk through.	MB
09:30 09:45	Establishment of groups and explanation of what to do.	MB
09:45 11:00	Scenario #1, group work	
	LUNCH	
11:45 12:45	Plenary presentation of conclusions and discussion	OFM/PM
12:45 14:00	Scenario #2, group work	
14:00 14:45	Plenary presentation of conclusions and discussion	OFM/PM
14:45 15:15	Closure of the seminar	CH/GWS

Introduction

First of all I would like to give my thanks and recognition to the FUTOP project team for a well done job.

When this project started I had never thought that the team would be able to do such a tremendous job within such short time. I'm impressed with the thoroughness and quality of the work not leaving one stone unturned. Further, I'm impressed by the spirit, consciousness, motivation and enthusiasm which the team has shown when performing this rather difficult job.
I would also like to thank all of you who have contributed by giving feedback and who have participated on more ad hoc basis in the project.
At last I would like to give my appreciation to the trade unions and HVO's who have cooperated in a very constructive manner and who have devoted a lot of their resources to the follow up and quality improvement of the project.

We have now set the official implementation date to the 4th of April. In order for all of you to have a thorough understanding of the new work principles, the new organisation and operational philosophy we are arranging a series of seminars. I hope you will find these days useful and that you will use this opportunity to ensure that you understand how the new organisation is meant to work and to build a winning team. Further, I also assume that those of you who have decided to stay on with ELF has done this because you believe in what we are doing and that you feel committed to work according to our new operating philosophy. Afterall, remember it has been your own decision to stay on.

As I have said several times before there has been nothing wrong with the way we have been doing things and been organised in the past. We have to remember that our frame conditions were different in the past. Today we are operating fields in the decline phase under another set of frame conditions. The challenge is to adapt to this situation. This is why the FUTOP project was launched. The main frame conditions for FUTOP has been:

- The present safety level shall be maintained and improved according to ISRS objectives.
- The existing production profiles and contractual obligations shall be met.

I would like to dwell a bit on the way we are going to fulfil our safety objectives.
The first thing to mention is of course that we shall work safely. I think with the experience, the training, the attitudes and the professionalism you all have this is an obvious statement and you all know what it means. Therefore, I would rather like to use this opportunity to focus upon some key elements when it comes to safe working practices:

1. Planning
   A good planning is important in work were several parties are involved.

2. Communication
   A good communication during the work is important. Ensure that important messages are repeated.

3. Take your time to do your job safely
   Don't rush, use the required time necessary. But don't let statements like "I felt pushed" be and excuse for not being professional and efficient.

4. Experience feedback
   It is important to listen to what others have experienced. Remember, this is why we have all our reporting systems.

5. Reporting

- Don't forget that a small incident can easily develop into something bigger if we don't take action when we notice something unsafe.
- Be thorough and prudent in the reporting. Don't try to camouflage things under headings like:

    * Poor supervision
    * Poor procedures
    * Poor planning
    * Lack of motivation
    * Rush jobs

In some cases it is true that these statements are the underlying causes, but in other cases statements like this cover the underlying causes. So please be thorough and honest in the reporting. It is the only way we can progress towards increased safety and better work environment.

In our new organisation one of the ideas is to give you all more responsibilities when it comes to supervision of you own job, the work procedures used, the planning and also the motivation. This is why it is even more important that you report and that you learn from undesired events.

Finally, I would like to wish you all good luck in the work with the new organisation. The success is very much depending on you and your attitudes, and cooperation and I will do my outmost to support you where and when needed. I sincerely believe that you will succeed because you have the experience required both from the time you have spent with ELF and the time you have spent with other companies before you came to ELF.

So let us all decide that we will manage this challenge.

G. W. Syslak

"LET'S GO FOR IT"

Dear Colleagues,

Finally, the time has come to implement the new FUTOP organisation.

Some of you have been looking at the project with scepticism and resistance - let's call you the "why change - people" saying:

- are we not working efficiently today?
- we only have a few years left - what's the point?
- This will never work
- How can we do the same work with less personnel
- etc.

The "may-be people" say's:

- it's sounds interesting, but I'm not convinced
- what does this mean for me?
- it's hard to judge before we have tried
- etc.

The "let's go for it - people" says:

- Yes, this will give me new challenges and responsibilities.
- if we have to go down, let's go down with style
- this will work, and I want to be part of it
- etc.

In the next two days its our goal to change all the "why change - people" to "may-be people" and all the "may-be people" to "let's go for it - people"!

Ambitious? - YES!
Tough? - VERY!

But we believe in FUTOP and our possibilities for success.

We think, that the project is full of new progressive ideas, its very thoroughly prepared - and may be most important - based on extensive experience and involvement from the operational people! - YOU! - otherwise we would have shared your scepticism.

We also believe in it, because we do not have a choice - if we don't try, we will - most likely sooner than we think - be buried in the history books under "Prehistoric operations in the Frigg and Heimdal region"

The "why change people" said: "are we not working efficiently today?"

YES, you <u>are</u>! And YES you <u>have</u> been working efficiently in the past.

We have a production regularity record between 99 and 100%, and you can count the number of times we didn't meet the nomination on one hand!
And our OPEX? - always among the best!
So as an operator very few - if any - can match us!!
And why? - Because we have a unique organisation based on a mix of high competence, individualism, team work and the ability to pull up the sleeves and react quickly and efficient when needed!
What do we need to become the "perfect operator"?
We need to prove that we are able to master the change of going from a big operator to a small efficient operator.

We hear the "may-be people" say: "OK we hear what you say - but what's in it for me?"
In our society and in our company we have a tendency to forget that we are very privileged so let's see what's in it for us:

Today:
- We have a job
- We work for a very social company
- We are very well paid
- We have and open and constructive dialog at and between all levels
- We have good colleagues and a good working place

Tomorrow:
- We will have our job longer if we succeed
- We still work for a very social company
- We will have an even more open and constructive dialog
- We will still have good colleagues and a good working place

In addition we will:
- get more responsibility
- learn more
- improve the team spirit
- see some promotions and new compensations

So without trying - we will loose what we have and - what we could get - a lot faster!!

Some of the "why -change people" may think - "yeah, yeah - let's get started and after a while we will go back and do things the way we have always done"

But if we do this, we will not succeed!
Today we are organised and work as a big producer. -
Ladies and Gentleman! - the good old days are over! -
If we go back to old habits - even with the new frame conditions - we will not manage!
The new organisation is simply to small to operate in the old way!
After 6 months of old habits we will see a large backlog of work and our OPEX will hit the limit before we know it.

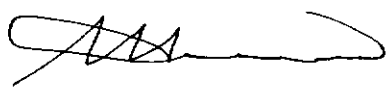
This is especially important for Heimdal since we have 6 months to prove that we can operate efficient, safe and at low cost.
Presently we are trying to sell Heimdal on the FUTOP concept - but if we can't prove our case - Heimdal will be lost.

During this seminar you will get a lot of new information, which may seem difficult to understand and remember.
Don't worry - it's not so difficult as it seems! We have prepared some very detailed position descriptions and guidelines to help you. Use the Implementation superintendent actively - and from onshore we will back you up as much as we can.

Speak out - take the problems when they come - Remember there are no stupid questions - only stupid answers.

- So let's go for it!

Good Luck

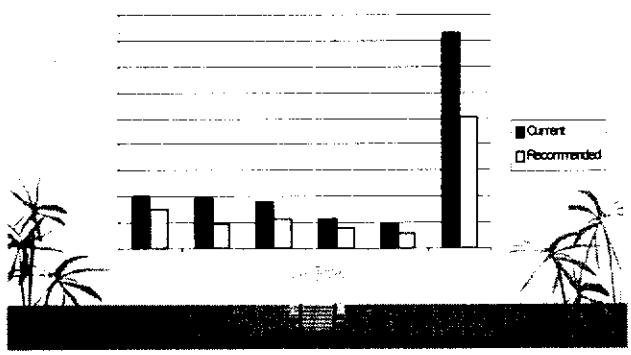


Christian Hansen

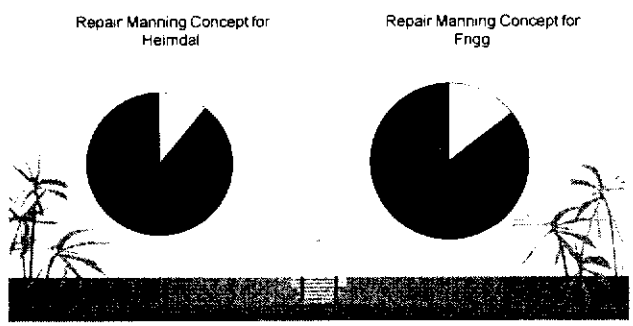
Frigg & Heimdal - Future Operations
Overall Project Objective

- Develop an optimum operational and organisational philosophy for the remaining lifetime operations of Frigg and Heimdal giving the lowest possible OPEX and maximum economical lifetime.
- Make all the necessary preparations for the implementation of the new philosophy and corresponding organisation.
- Implement the new organisation in a safe, organised and controlled manner.
- The work will be done under the following main frame conditions:
- The present safety level to be maintained and improved according to ISRS objectives.
- Existing production profiles and contractual obligations.

Frigg & Heimdal - Future Operations
Reliability Centered Maintenance (RCM)
Results - Sum of Frigg & Heimdal



Frigg & Heimdal - Future Operations
Corrective Maintenance Analysis
Main Results

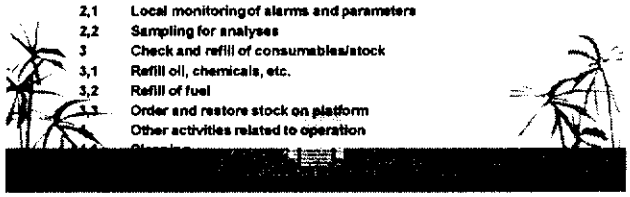


Frigg & Heimdal - Future Operations

RCO - Technical Standard Activities

A1. Normal Operating Conditions:

1	Running of the facilities
1.1	Normal monitoring and running of function
1,2	Running of equipment(local)
1,3	Trouble shooting, clearing of alarms, etc.
1,4	Hand over
1,5	Input to general reporting
1,6	Test running for function optimization
1,7	PIG operation
2	Monitoring
2,1	Local monitoring of alarms and parameters
2,2	Sampling for analyses
3	Check and refill of consumables/stock
3,1	Refill oil, chemicals, etc.
3,2	Refill of fuel
3,3	Order and restore stock on platform
4	Other activities related to operation



Frigg & Heimdal - Future Operations

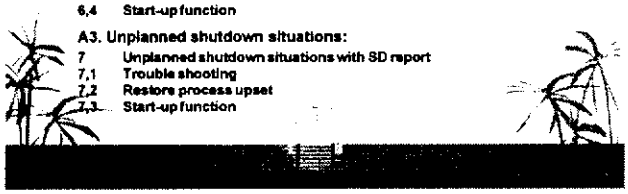
RCO - Technical Standard Activities

A2. Planned shutdowns and deviations

5.	Planned shutdown for AC/AP work, minor size
5,1	Stop of function and start of backup
5,3	Approve function and prepare for start-up
5,4	Start-up of function
6	Planned shutdown for AC/AP work, major size
6,1	Stop of function and start of backup
6,2	Isolation and prepare for start of work
6,3	Approve function and prepare for start-up
6,4	Start-up function

A3. Unplanned shutdown situations:

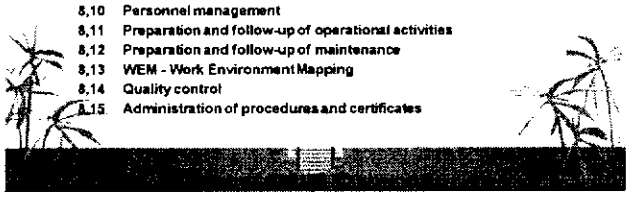
7	Unplanned shutdown situations with SD report
7,1	Trouble shooting
7,2	Restore process upset
7,3	Start-up function



Frigg & Heimdal - Future Operations

RCO - Management & Administrative Standard Activities

8,1	Routine planning - excl. WP
8,2	S/D planning and supervision
8,3	Logistics - Personnel
8,4	Logistics - Materials
8,5	Scheduled meetings
8,6	WP handling
8,7	Training
8,8	Audits
8,9	Modifications
8,10	Personnel management
8,11	Preparation and follow-up of operational activities
8,12	Preparation and follow-up of maintenance
8,13	WEM - Work Environment Mapping
8,14	Quality control
8,15	Administration of procedures and certificates



Frigg & Heimdal - Future Operations

RCO - Management & Administrative Standard Activities

8,16	General document handling
8,17	Trouble shooting
8,18	General reporting
8,19	Event handling
8,20	Handoverflogs
8,21	Safety drills and campaigns
8,22	Requests from onshore

Frigg & Heimdal - Future Operations

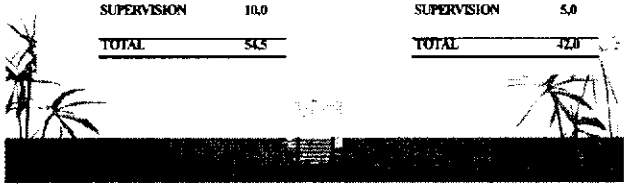
FRIGG FIELD (Incl. FRØY & DP2)

Table 1.00 — CURRENT

RCM yearly hrs.	102 726
RCO yearly hrs.	73 172
Total yearly hrs.	175 898
Calculated positions	43,8
Current positions	44,5
SUPERVISION	10,0
TOTAL	54,5

Table 2.00 — RECOMMENDED

RCM yearly hrs.	71 328
RCO yearly hrs.	67 273
Total yearly hrs.	138 602
Calculated positions	34,5
Recommended positio	37,0
SUPERVISION	5,0
TOTAL	42,0



Frigg & Heimdal - Future Operations

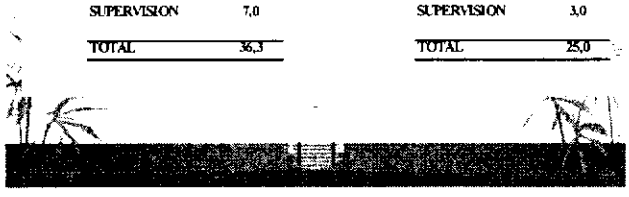
HEIMDAL

Table 1.00 — CURRENT

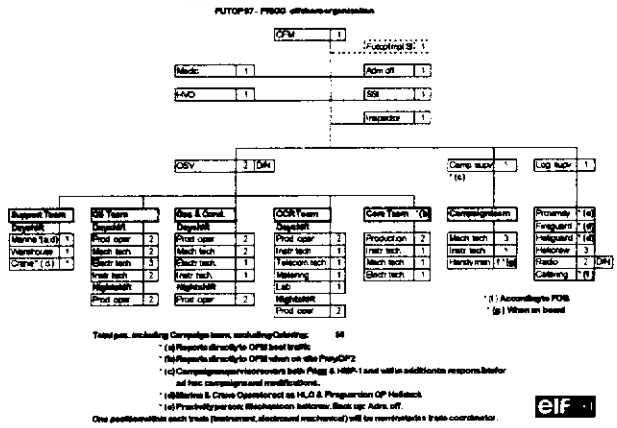
RCM yearly hrs.	67 212
RCO yearly hrs.	45 337
Total yearly hrs.	112 549
Calculated positions	28,0
Current positions	29,3
SUPERVISION	7,0
TOTAL	36,3

Table 2.00 — RECOMMENDED

RCM yearly hrs.	44 688
RCO yearly hrs.	40 318
Total yearly hrs.	85 006
Calculated positions	21,2
Recommended positio	22,0
SUPERVISION	3,0
TOTAL	25,0

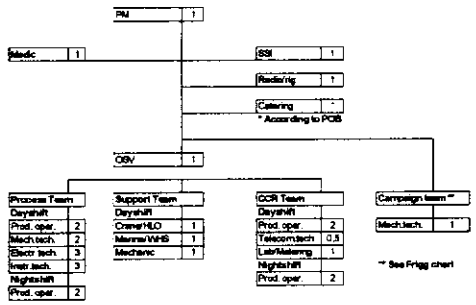


Frigg & Heimdal - Future Operations



Frigg & Heimdal - Future Operations

FUTOP 97 - Heimdal offshore organisation



Total positions included Campaign team, excluding Catering: 28.5

One position within each trade (instrument, electro and mechanical) will be nominated as trade coordinator.

elf petroleum norge as

Production and Maintenance Principles for Frigg and Heimdal

Rev. 0
March 1997

	Name	Dept.	Sign.:
Prepared by:	T. Nedregaard	POD	
	M. Fjeldheim	Methods	
	F. L. Firing	Methods	
Verified by:	P. Rosenthal	FUTOP	
	T. Bergan	POD	
	Offshore Fields Manager	FOD	
	C. Hansen	FUTOP	
Approved by:	G.W. Syslak	FOD	

PRODUCTION AND MAINTENANCE PRINCIPLES FOR FRIGG AND HEIMDAL

1. PURPOSE

This document specifies the Production and Maintenance principles for Frigg and Heimdal and sets out the operating principles to adhere to in order to meet the objectives set forth in the FOD Quality Manual. In addition, it should be noted that all critical activities are regulated by various procedures such as Platform Management Manual (PMM), Common Operating Procedures (COP) and the Operating Manuals.

2. GENERAL

The past operating principle has been to maintain production as close as possible to 100% regularity, due to the high value of the production and the gas contracts. However, now that we are an ***oil producer*** and ***small gas supplier***, a change in philosophy is required in order to reduce the operational expenditure and thereby prolong the economical life of the fields. In principle and based on the result from the FUTOP Project, it is only shutdown of the Frøy oil and gas production, and to some extent Heimdal, that should result in immediate repair of equipment required to resume production. This also includes utility and safety related equipment in accordance with the repair principles specified herein. All other repairs should be performed in an organised and planned manner to avoid upsets to the already planned activities. This work shall preferably be performed by the Campaign Team in accordance with the repair strategy which is further detailed in the following Sections.

3. ORGANIZATION

The Fields Operated Division (FOD) is responsible for the operation of Heimdal and Frigg fields using its offshore personnel to execute the physical operation and being directly supported by FOD onshore (Production Operations, Technical Support, Administrative Support and Methods departments). The offshore organisation on Frigg and Heimdal is organised in accordance with the principles developed in the FUTOP Project, i.e. with two executive teams, Operational and Campaign Teams (the main responsibilities of these are listed below), and support functions such as Medic, Safety Superintendent, Logistic, Catering, etc. The valid organisation is described in detail in Elf Norge's organisation charts.

The day to day work offshore will be performed by the Operational Team. This includes production of oil and gas, as well as some preventive and corrective maintenance. However, it shall be limited to the quantity that can be performed with the spare capacity of the Operational Team and mainly related to critical equipment required to maintain production from Frøy and Heimdal, safety systems as well as equipment where a shutdown will have significant safety implications. All of the remaining work, in particular that which is not required on a daily basis and can be planned and performed in a structured manner shall be performed by the Campaign Team. This to ensure optimum use of the resources available and thereby minimising the operating cost.

The responsibilities of the two teams are as follows:

Operational team:
- Process, control and monitoring
- Operational activities for all four trades (production, electrical, instrument and mechanical)
- "1st degree maintenance"
- Trouble shooting
- Prioritisation of repair
- Frøy and DP2 operation on site
- Start all initial repairs on non-redundant critical equipment.
- Minor/medium repair of critical failures.
- Part of the Preventive Maintenance program [It is important to ensure that the preventive maintenance work is split such that the necessary competence is maintained and / or improved for safety equipment.]

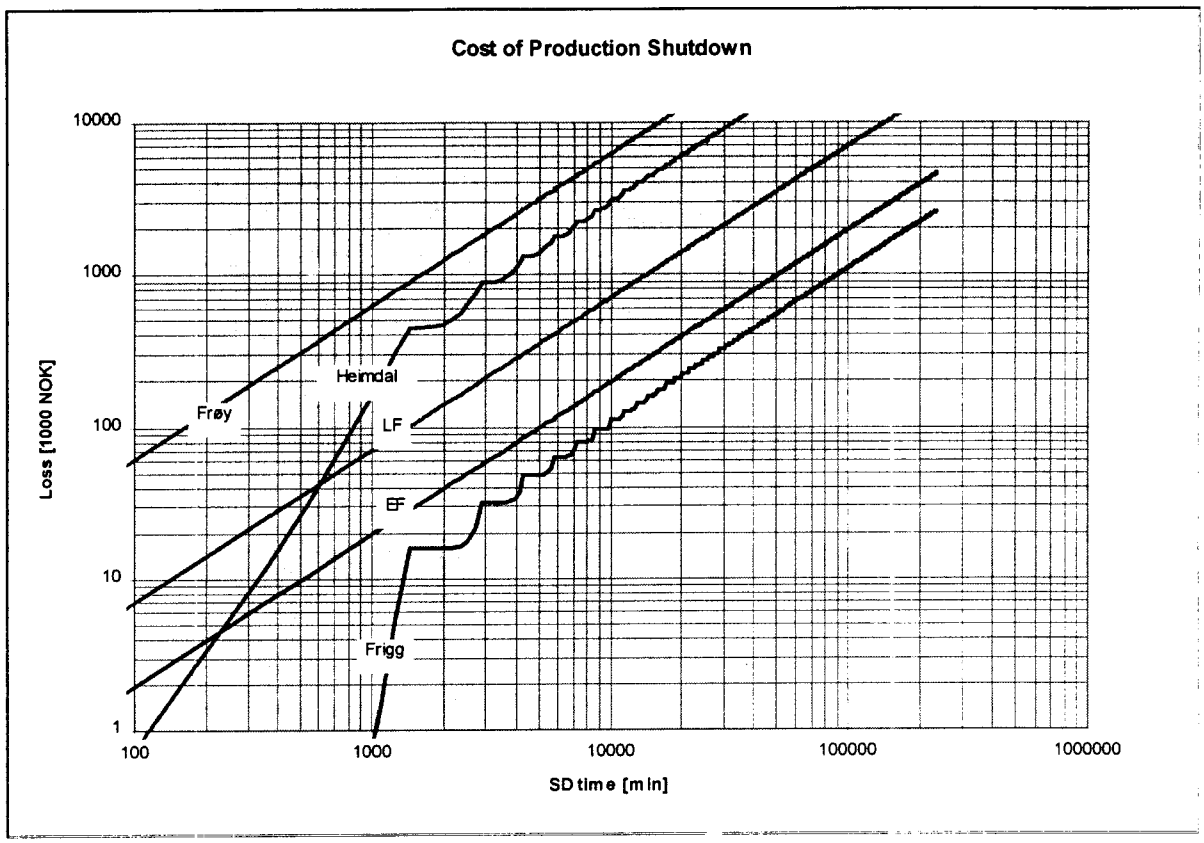
Campaign team:
- Medium/Major repair of critical failures
- Most repair of non critical equipment
- Preventive maintenance

Both teams report to the OFM/PM, and it is an important premise for the efficiency of the teams that they are co-ordinated and able to distribute work tasks correctly and in accordance with set priorities and resources available.

4. PRODUCTION PRIORITY AND REPAIR STRATEGY

Both Frigg Area Fields and Heimdal have reached such a stage in their production life (well off plateau rate) that immediate repairs to restore and/or maintain production, might no longer be the most economical approach. In fact, immediate repairs can normally only be justified if they are required to resume Frøy oil and gas production and to some extent Heimdal gas and condensate production.

During the FUTOP Project, economical models were developed on the basis of existing agreements and production availability models for Frigg and Heimdal. The following graph demonstrates the cost of the production shutdowns from the various fields.



PREMISES:

- For East Frigg, Lille Frigg and Frøy, it is assumed that a shutdown will result in a production delay and consequently an increase in OPEX as a result of the prolonged lifetime.

- For Lille Frigg and Frøy, the delayed production also entails a delay in the sale of liquid until the end of field life, and thereby a loss due to delayed income (This is based on the assumption that gas deliveries will continue after 1st of October 2000). Due to the short remaining lifetime and the small quantities of remaining production, this loss has not been calculated for East Frigg.

- For East Frigg and Lille Frigg it has been assumed that substitution gas will be available for all shutdown scenarios.

- For Frøy, the penalty for not meeting gas deliveries has been assumed to be zero. The associated loss will therefore only be delayed gas sales.

- For Frigg (DP2) and Heimdal, the situation will be different. Due to a production potential that is substantially higher than the Maximum Daily Delivery (MDD), the fields are assumed able to repay any substitution / OPFLEX gas within their planned production life. The contractual penalty of not meeting the daily delivery is 25% of the gas price. Based on previous experience and predicted future OPFLEX / substitution situation, a statistical approach has been used to assess the probability for not meeting the contractual obligations.

  For Heimdal the average available quantity of gas has been assumed to be 5 MSCMD, whilst for Frigg (DP2) it has been assumed to be 1.56 MSCMD (MDD).

- All losses have been discounted with 7% pro annum.

On the basis of the results presented in the graph above and the work performed during the FUTOP Project, the production and repair strategies (and priorities) were developed to provide the Operational and Campaign Team Supervisors with a guideline for prioritising the production and selecting which team to perform the repairs (see tables below). Based on experience and the daily work load, they shall co-ordinate and optimise the utilisation of the available resources through thorough planning.

For all corrective maintenance tasks, the Operational Team shall act as the preliminary diagnostic team and start all priority 1,2 and 3 tasks. If time to repair exceeds the limits stated in the tables for Frigg and Heimdal below, the execution of the job may be transferred to Campaign Team, but if time and resources permit, it is the Operational Team's responsibility to complete the task (for Frigg this will be the case for nearly all electrical tasks whereas for Heimdal it will be for nearly all electrical and instrument tasks).

4.1 Frigg Area

For Frigg Area, the repair strategies are as follows:

Prio-rity	Failure Type	Repair Strategy	Team
1	Failure resulting in immediate production shutdown of ***Frøy***, significant safety implications or severe process control / metering consequences	Operational Team to start repair immediately.	Operational *d)*
2	Failure resulting in immediate production shutdown of ***Lille Frigg.***	Operational Team to start repair within a few hours. *a)*	Operational *d)*
3	Failure resulting in immediate production shutdown of ***East Frigg or DP2***	Operational or Campaign Team to start repair within the next day. *e)*	Operational *d)*
4	Failure resulting in shutdown of standby equipment for ***Frøy***. (Further detailed in the following sections).	Campaign Team to start repair within one week. *b)*	Campaign
5	Failure resulting in shutdown of standby equipment for ***Lille Frigg, East Frigg or DP2***	Campaign Team to start repair within one month. *b)*	Campaign
6	Non-critical failures	Planning and campaign repair	Campaign
7	Non-critical production disturbance	Monitoring of situation and plan repair strategy. *c)*	Campaign

Notes:
- *a) If shutdown occurs during last part of the night shift, start of repair shall be postponed to the following day if it requires mobilisation of additional personnel.*
- *b) Repairs that can be completed within one shift shall be repaired at first convenient opportunity by the Operational Team.*
- *c) Monitoring by Operational Team*
- *d) The Operational Team shall hand over the work to the Campaign Team if the repair exceeds two calendar days.*
- *e) Immediate repair shall start if it is certain that the gas nominations cannot be met.*

4.2 Heimdal

The repair strategy is as follows:

Prio-rity	Failure Type	Repair Strategy	Team
1	Failure resulting in immediate production shutdown of ***Heimdal***, significant safety implications or severe process control / metering consequences	Operational Team to start repair immediately. Hand over to Campaign Team if repair exceeds two calendar days. *a).*	Operational *d)*
2	Failure resulting in shutdown of standby equipment for ***Heimdal***.	Immediate planning, but only repair when also online unit fails. Hand over to Campaign Team if repair exceeds two calendar days. *b) and c)*	Operational *d)*
3	Non-critical failures	Planning and campaign repair	Campaign
4	Non-critical production disturbance	Monitoring of situation and plan repair strategy.	Campaign

Notes: *a) Repair, particularly during night shift (to avoid call-out), shall not be started before other arrangements such as substitution gas and operational flexibility have been explored.*
b) Except essential safety systems or equipment where major production problems are foreseen, e.g. hydrate formation due to no inhibitation, scaling problems.
c) Repairs that can be completed within one shift shall be repaired at first convenient opportunity by the Operational Team.
d) The Operational Team shall hand over the work to the Campaign Team if the repair exceeds two calendar days.

Reference is made to Appendix A for further details regarding specific equipment and corresponding production and repair strategies (and priorities) for both Frigg and Heimdal fields.

5. MAINTENANCE PRINCIPLES

The objective of preventive maintenance is to keep all systems offshore in a state where they can perform their required functions to ensure that:

- Safety of personnel, environment and facilities is adequate and maintained
- The authorities' requirements are fulfilled
- Production of oil is maximised and gas delivered to meet the contractual obligations.

To reach these objectives, the RCM methodology have been used to arrive at an optimum maintenance strategy developed on the basis of the FUTOP Project results. This methodology is based on a criticality assessment of systems, equipment and components taking into account the probability of possible failure and all associated consequences (i.e. risk). This has resulted in a set of optimised preventive maintenance routines on Frigg and Heimdal. The RCM basis for these routines is recorded in a dedicated RCM database for easy future updating and reference. Based on this detailed evaluation a number of Maintenance Standards for most equipment types have been prepared. These standards are a compilation of preventive maintenance routines recommended from the FUTOP Project. The purpose of these documents is to provide guidance when evaluating the need for preventive maintenance for different (new) equipment. The documents are meant to reflect, in general, the preventive maintenance standards and not the preventive maintenance plans for specific equipment. I.e., similar types of equipment should in principle be subject to the same type of maintenance.

All maintenance work offshore shall be logged in the dedicated Computerised Maintenance Management System (OPTIMIS) and be updated for experience transfer and follow up of performance. This shall also include all contractor and/or specialist work and assistance.

In order to ensure that the maintenance is optimised at all times, the maintenance principles and databases developed in the FUTOP Project shall be reviewed based on the operational experience and defined performance indicators.

For new installations / equipment, an evaluation shall be made to decide whether the existing principles shall be applied or whether a more detailed RCM analysis shall be performed. The following principles shall apply for the RCM analysis (similar to the original FUTOP RCM method):

1. A criticality assessment of systems, equipment and components taking into account the probability of possible failure and all associated consequences (i.e. risk) shall be performed. The criticality assessment shall preferably be carried out in work sessions with participation from all trades, including experienced offshore and onshore personnel. The risk evaluations and conclusions shall be documented in a dedicated RCM database.

2. Based on operating experience, the criticality assessment and the agreed decision logic, the "optimal" maintenance strategy is defined. This "optimal" maintenance strategy is compared with current maintenance strategy, rules, regulations, vendor recommendations and internal standards to arrive upon recommended maintenance strategies for each system, equipment or component.

Major rotating equipment, e.g. gas compressors and power generators, shall be monitored (running hours) and operated such that equipment in parallel trains will be scheduled for major service at different points in time (permutation).

6. PRINCIPLES FOR EXECUTION OF MODIFICATIONS/NEW PROJECTS

All modifications and new installations, shall be justified economically or through authority requirements. Substantial improvement in the safety level, a significant reduction in the environmental impact of the operations and/or a significant improvement of the working environment may justify modifications. (These may in themselves result in improved profit and/or reduced costs and simplified working processes.) All modifications shall be executed in accordance with PMM 15.

To achieve optimal economic solutions, it is a requirement that:

- New equipment/facilities are constructed in modules with respect to significant modifications
- As much as possible of the work is carried out onshore
- As much as possible of the work involved shall be completed prior to start-up even if not directly influencing the production (such as painting of equipment/facilities supports/structures).
- Consideration shall be made to ease/flexibility for future tie-ins to and use of existing infrastructure.
- With respect to remotely operated platforms/installations, the objective shall be a simple design to minimise maintenance and time spent at the platform/installation. The equipment shall preferably be located at manned installations.
- During design of new systems/modifications, particular care shall be taken to reduce the need for maintenance. Use of corrosion resistant materials, reduction in the use of back up equipment, reduction in instrumentation etc. are examples of this.
- Design and modifications shall be performed in accordance with Norsok specifications and principles taking due account for specific Elf requirements. With respect to minor modifications, application of Norsok specifications and principles shall be considered on a case by case basis.

All economically justified activities, including, but not limited to modifications and/or installation of new equipment, shall upon completion be monitored. The experience gained and savings realized shall be

documented in a follow up report which shall be completed no more than six calendar months after completion of the activity or modification/project.

7. PROFITABILITY

It is the responsibility and duty of all FOD employees to actively participate to continuously optimise the profitability of Frigg and Heimdal through maximising production and sales of oil and gas as well as minimising the operating costs.

- Employee participation in the optimization process shall be strongly encouraged and properly recognised by line management.

- The availability of the production facilities shall be in accordance with all agreements and be a function of shutdown cost . A continuous monitoring of equipment performance shall in addition aid in identifying weak areas or systems in order to improve the availability as far as it is cost effective to do so.

- No modifications to the offshore facilities shall be approved unless they can be proven cost effective or required due to direct regulatory requirements. Safety, external environment, working environment and authority requirement considerations shall always be addressed in the evaluations and be included in the economical evaluation. All economical considerations shall be based on life cycle cost.

- The "Good Enough" principle shall be adhered to at all times, with Life Of Project (LOP) economics governing the decision process.

8. PLANNING

8.1 Work Planning

With the exceptions of minor and some defined routine tasks, all work tasks shall be planned and prepared onshore. The objective is to ensure maximum use of available resources onshore and to minimise the number of people offshore while maintaining an optimum level of control and safety.

In order to optimise equipment capacity and ensure a cost efficient operation, especially during maintenance campaigns and/or modification projects, production and maintenance activities must be co-ordinated. This is ensured by the preparation of daily, weekly, biweekly and six monthly work programs based on input from Production Operations, Technical Support, Reservoir, and Drilling and Completion Department. The work programs shall as a minimum include/consider:

- the priority of the activities
- optimise use of standby/spare equipment
- taking advantage of shut-downs for other reasons, including downstream facilities operated by third parties
- low gas requests and the current Production Plan
- the activities shall be planned and all preparations completed, both onshore and offshore, prior to commencing the activity.
- logistics shall be given proper attention in all planning.

Planning is mainly performed onshore, however the daily and bi-weekly plans will be under the control of the offshore teams, who will make adjustments as necessary. Any changes of plans that has effect on future planning shall be transmitted to the onshore planning responsible.

8.2 Production Planning

The production planning shall be a structured and organised process involving various entities both within and outside FOD. As a main principle, the Annual Production Plan is defined based on reservoir, commercial and operational opportunities and constraints. The accepted annual plan is then broken down into monthly plans which are prepared by the Production Section in POD. This plan is sent offshore, where it is detailed into weekly plans, taking into account the work plans and other constraints. The result of this overall plan is the weekly production plan, where the offshore organisation reports regarding fulfilment / non-fulfilment of the plan with Event Reports defining non-fulfilment. This planning is further described in PMM 0.7.

9. PERFORMANCE MONITORING AND VERIFICATION

The adherence to the principles laid down in this document shall be monitored carefully to ensure that the general objectives of FOD and the FUTOP project will be reached.

The existing FOD performance indicators, ref. FOD Quality Manual and POD Monthly Report, will be used as an essential tool in this context. However, in order to fully reflect the new organisational structure in FOD the work performance shall be monitored using some further performance indicators established and implemented for this purpose.

The FUTOP Implementation Superintendent (temporary offshore position) has a special responsibility for monitoring and verifying the implementation of the new organisation and the performance of the organisation as a whole. This responsibility includes the development of the before mentioned new performance indicators.

General work verification shall be performed in accordance with the principles in the FOD Quality Manual.

APPENDIX A:

PRODUCTION PRIORITY AND STRATEGY

In the following sections the production and repair strategy for the various fields and systems have been further addressed to ensure that the objectives set forth in the FOD Quality Manual are met. These specifics have been based on the estimated value of the lost production (see graph in Section 4 in the main report) and the consequential repair strategy prescribed in the main part of this document.

A -1 Frigg Area

With respect to production priority for the fields in the Frigg Area, Frøy shall be produced with first priority and all reasonable efforts shall be made to maintain the liquid production from the field. The objective is to maximise oil and condensate production at any time. The priority for the remaining fields shall then normally be Lille Frigg, East Frigg and DP2 in descending order. DP2 shall be considered the swing producer. In the event it is certain that the gas delivery nominations cannot be met, then the first priority shall be to meet said nominations.

A -1.1 FRØY

Shutdown of equipment required to maintain production from Frøy warrants immediate planning and repair.

A -1.1.1 Frøy WHP (Priority 1)

If a shutdown occurs at Frøy WHP, all efforts shall be put into getting the production back on line as soon as practically possible. This means that manning of the WHP shall be considered for shutdowns occurring in the period 19:00 to 07:00 hours provided the weather and Working Environment Act constraints allow for such manning. This is also applicable for safety and utility equipment required to maintain production. As soon

as it is evident that manning will have an impact on the following day's helicopter operations, arrangements shall be made to avoid impact on the helicopter traffic the following day.

Standby Equipment (Priority 4)
In the event there is a breakdown of standby equipment required to maintain production such that there is no standby unit available, immediate planning and repair of the equipment in question (Priority No. 4 in table above) shall be arranged within one week taking due account of the planning of the Core Team.

A -1.1.2 Frøy Gas Compression (when only one available Priority 1)

If some or all gas compression facilities are unavailable, the Frøy Oil production shall be maintained at maximum rate for the first 24 hrs, which will lead to full flaring of all gas produced from Frøy. As full flaring of gas normally exported from Frøy currently has a value of up to 1 mill. NOK/day (including CO_2 tax) and all flaring is considered as contrary to the Company's environmental policies, all reasonable efforts (including the use of additional helicopters and boats if cost beneficial) shall be made to repair the Compression Facilities.

After 24 hours, thorough internal discussions shall have resulted in a decision on the continuing production strategy.

The running hours shall be monitored to ensure that the compressors will be scheduled for major service at different points in time (permutation).

Standby Unit (Priority 4)
In the event there is a breakdown of one of the compressor trains and associated equipment required to operate the train, then measures shall be taken to start repair of the unit within one week from breakdown (defined as Priority No. 4 in table above).

A -1.1.3 Frøy Fuel Gas Compression (Priority 1)

Should the Frøy Fuel Gas Compressor shut down, the production shall continue at the highest possible technical rate with flaring of associated gas as long as it does not jeopardise the flare permit given by the Authorities. As the expected CO_2 Tax for flaring could easily exceed 100 KNOK/day and all flaring is considered contrary to the Company's environmental policies, all possible efforts shall be used in order to get the Fuel Gas Compressor back in operation. With respect to repairs, the unit should be considered as equipment under Priority No. 1 in table above.

A -1.1.4 Frøy Gas Lift Compression (Priority 3)

The current value of the incremental oil production achieved by the gas lift system only warrants that repair and bringing the unit on line shall be carried out in a planned and orderly manner. No call out and rush activities during the night are allowed with the present set up (gas lifting of wells A-5 and A-6). With respect to repairs, the gas lift facilities shall be considered as equipment under Priority No. 3 in table above.

A -1.1.5 Frøy Water Injection (Priority 2)

The Water Injection System serves two main functions, reservoir pressure maintenance and fire water supply to Frøy WHP. To avoid a too rapid loss of reservoir pressure, the water injection facility must remain operational and injection rates are to be as close as possible to the required rates as estimated by Reservoir Dept. to avoid loss of production in the long run. The water injection facilities required to maintain required injection capacity shall therefore with respect to repairs be considered as Priority No. 2 equipment. Standby equipment shall in this context be regarded as Priority No. 5 equipment. Upon shutdown of the water

injection facilities during periods when the WHP is manned, measures, compensating and/or precautionary, shall be taken in accordance with existing procedures.

A -1.1.6 Produced Water Treatment (Priority 1)

The facilities required to treat the produced water from Frøy shall be considered as Priority No. 1 equipment warranting immediate repair upon failure. In the event that the oily water discharge is above the permit level, PMM 10 shall be strictly followed. If required, water producing wells may be choked back (but only in agreement with the Prod. Dept. Manager onshore) in order to meet the requirements as specified in PMM 10.

A -1.2 LILLE FRIGG (PRIORITY 2)

Due to the relatively high contribution from the condensate to the value of the Lille Frigg production, Lille Frigg is to be regarded as an oil/condensate producer and production shall be maintained as high as possible. This will also allow maximum output at minimum operating cost. The total gas deliveries shall be adjusted with the production from East Frigg and DP2 as required.

DEG (Methanol) pumps for sub sea injection is ***Priority 1*** equipment until a controlled shut down of Lille Frigg has been achieved.

With respect to failures and repair strategy, Lille Frigg equipment is classified as Priority No. 2 warranting repair to start within a few hours. If the shutdown occurs during the last part of the night shift, start of repair shall be postponed until the following day if it requires mobilisation of additional resources. in a structured manner to ensure a cost efficient operation, e.g. commencing the following day for small repairs (< 6 hours).

Standby equipment (Priority 5)
Standby equipment, such as the Condensate Transfer Pumps CP619A/B, is considered to be Priority No. 5 equipment. Repair shall start within two weeks from breakdown (defined as Priority No. 5 in table above).

A -1.3 EAST FRIGG (PRIORITY 3)

East Frigg is expected to be within the last year of its economical life. For this reason and the consequential high losses of a production shutdown (see graph in Section 4 in the main report), East Frigg is to be depleted as soon as possible, considering all practical problems relating to the re-payment of the bank with gas from DP2. East Frigg will normally have priority before DP2, but after Lille Frigg. The production rate shall be maintained as stable as possible to avoid liquid hold up and slugging in the pipeline and consequential water disposal problems from the field. In this case, DP2 may be prioritised for periods of short duration.

With respect to failures and repair strategy, East Frigg equipment is classified as Priority No. 3 warranting planning and repair in a structured manner to ensure a cost efficient operation, commencing the following day.

A -1.4 FRIGG - DP2 (PRIORITY 3)

Gas production from DP2 has normally the lowest priority. Production from DP2 may be used to substitute other fields such as Bruce and Alwyn production, however this shall normally not be the case if it requires manning of DP2 during the nigh shift to do so.

If there is an agreement with Total to operate Sealine 2 at constant pressure, DP2 may be produced as needed to assist in reaching this objective. However, priority shall normally be given to East Frigg w.r.t. to maintaining the line pressure.

Manning of DP2 between 19:00 and 07:00 should normally be avoided unless for safety reasons or if it is certain that there will be a loss of nominations. In such events weather and Working Environment Act constraints shall always be considered. As soon as it is evident that manning will have an impact on the following day's helicopter operations, arrangements shall be made to avoid impact on the helicopter traffic the following day.

With respect to failures and repair strategy, DP2 facilities both at the DP2 platform and TCP2 are classified as Priority No. 1 if the equipment is required for "operational safety" reasons (usually hydrate prevention). Otherwise the equipment required to maintain production is classified as Priority No. 3. and repair shall be planned and performed accordingly.

If it is certain that the re will be a loss of nominations, the DP2 Facilities shall be classified as Priority No. 1.

A -1.5 FRIGG - COMMON FACILITIES

A -1.5.1 Oil Export - Frøy and Lille Frigg (Priority 1)

Oil export and the associated facilities shall be given the highest priority due to the implications of loss of revenue upon shutdown. The equipment required to maintain the production level has been classified as Priority No. 1 equipment. In the event there is a breakdown of the standby booster pumps CP503A,B or C or the export pumps CP605A or B, measures shall be taken to start repair of the unit within one week from breakdown (defined as Priority No. 4 in table above).

The running hours of the export pumps shall be monitored to ensure that they will be scheduled for major service at different points in time (permutation).

In the event the RVP or BS&W specifications are outside of the Contractual Limits, production shall continue at normal rates. In agreement with the Production Dept. Manager, all reasonable efforts shall be implemented to get the oil back within specification requirements. The Production Dept. Manager onshore will notify Norsk Hydro as required.

A -1.5.2 Gas Treatment and Export (Priority 1)

In order to maintain full production from Frøy without full flow flaring and handling of Alwyn on TP1, all non-redundant equipment related to dehydration and export to the two Sealines have been classified as Priority No. 1, meaning that upon failure, immediate planning and repair is required. In the event one of the two Sealines is unavailable, the interconnection between the two shall be utilised to the extent feasible always respecting the contractual arrangements.

The operation of Sea line 2 shall be agreed with Total, and a plan shall be issued regularly. This plan will indicate whether the line shall be operated in a constant pressure mode or if it is allowed to use the line pack and let the pressures vary between set limits. As the mode of operation will have a significant impact on the production priority (in particular for DP2), this plan shall be approved by the Production Operations Department Manager.

A -1.5.3 Power Generation (Priority 1)

As power generation is critical to the production of oil and gas, the power generators themselves are classified as Priority No. 1 equipment warranting immediate repair. During periods when only one generator is required and one of the two generators suffers from a breakdown, measures should be taken within a few hours such that it can resume its status as a standby unit, hence in this context the generator (as back-up) is classified at Priority No. 2 equipment. This is also valid for the fuel systems supplying the generators.

The power generation system is designed to normally enable start and operate one oil export pump (CP605 A or B), one of the main gas compressor trains (K601&2 A or B), the fuel gas compressor (K603/4), one water injection pump CP607 A or B (including booster and utility pumps) and the Frøy WHP oil export pump (P001 A or B) with one power generator running.

Start of two water injection pumps (CP607 A and B) requires two power generators in operation provided that Frøy oil and gas production facilities are in operation. Caution must therefore be taken whenever starting up the second water injection pump. However, running two water injection pumps (CP607 A and B) normally requires only one generator.

In order to maximise the production volume from Frøy, it may be required to continuously operate both power generators. This will be required in the event the gas export pressure is too high for one set of compressors for Frøy to handle and / or the gas flow may be so high that two compressor trains are required. If this is the case, then two power generators shall be operated.

The running hours of the generators shall be monitored to ensure that they will be scheduled for major service at different points in time (permutation).

A -1.5.4 "Methanolated Water" Handling and Reinjection (Priority 2 or 3)

The produced water handling equipment required to maintain production from Lille Frigg; East Frigg and DP2, shall be classified similarly as the production facilities for the fields in question. However, this is not applicable for CV33 and associated equipment that are classified as Priority No. 5. The repair strategy shall be accordingly. Whenever it is certain that shutdown of the Water Treatment Facilities will lead to loss of gas nominations, the equipment in question will be **Priority 1.**

A -1.5.5 Safety Systems (Priority 1)

Safety equipment is regarded as Priority No. 1 equipment. Upon failure of such equipment, e.g. fire water pumps and fire and gas detection systems, adequate compensatory measures shall be implemented until the situation has been restored.

Unavailability of safety equipment which only constitutes a marginal reduction in the safety level (i.e. required compensatory measures can be implemented at little additional cost) shall be put back in service as soon as practical in a planned manner.

A -1.5.6 Utility Systems (Critical Priority 1, else Priority 5)

Failure of utility systems resulting in a direct shutdown or reduced production shall be repaired in accordance with the principles for the fields they support. Based on the present failure frequency of utility equipment, standby units shall be repaired in accordance with the principles for Priority No. 5 equipment.

A -2 Heimdal

With respect to production and equipment failures the philosophy for Heimdal shall be based on maximum use of operational flexibility, i.e. substitution agreements with users of the Statpipe System.

A -2.1 Gas Process (Priority 1)

Production equipment directly required to maintain gas production shall be brought back on line as soon as possible, always considering the time available through the operational flexibility arrangements, i.e. such equipment has been classified as Priority No. 1. For shutdowns during night shifts, it is particularly important to consider operational flexibility arrangements to avoid unnecessary call-outs. Onshore assistance shall be called upon in these instances.

The running hours of the various compressor trains shall be monitored to ensure that they will be scheduled for major service at different points in time (permutation). However, this will not be applicable for the export compressors where the principle shall be to run the compressor that will be rebundled during 1997. The other export compressor shall be used as a permanent standby unit.

Standby Equipment (Priority 2)
Based on the results from the FUTOP Project, see table and graph in Section 4 in the main report, standby equipment is classified as Priority No. 2 equipment and shall upon failure result in a planning of the repair, but the equipment in question shall not be repaired until the standby unit (now in operation) also fails. The equipment in question then in essence moves from being Priority No.2 to Priority No. 1. The planning and repair shall be performed by the Operational Team, but handed over to the Campaign Team if the repair exceeds two calendar days. Such equipment includes amongst others:

- Gas Export Compressors
- Recycled Gas Compressors (*)
- Residual Gas Compressors (*)

(*) Gas export would still be possible, but the unit should nevertheless be repaired as soon as practical to avoid unnecessary flaring which is to be considered as contrary to the Company's environmental policies. Unnecessary flaring imposes increased operating cost due to additional CO_2 tax.

A -2.2 Condensate Process (Priority 1)

Production equipment directly required to maintain condensate production and export shall be brought back on line as soon as possible. Existing condensate storage facilities shall be used to its full extent to avoid reinjection of condensate which is regarded as lost. In addition, the time available through the operational flexibility arrangements for gas deliveries should be utilised to its full extent to minimise lost condensate production. However, in order to meet contractual obligations, reinjection of condensate may be required from time to time. Facilities which upon failure will result in a direct shutdown or reduction in condensate production are classified as Priority No. 1 equipment.

Major pumps, such as the export pumps, shall be monitored (running hours) and operated such that they will come up for major overhauls at different time periods (permutation).

Standby Equipment (Priority 2)
Based on the results from the FUTOP Project, see table and graph in Section 4 in the main report, standby equipment is classified as Priority No. 2 equipment and shall upon failure result in a planning of the repair, but the equipment in question shall not be repaired until the standby unit (now in operation) also fails. The equipment in question then in essence moves from being Priority No.2 to Priority No. 1. The planning and

repair shall be performed by the Operational Team, but handed over to the Campaign Team if the repair exceeds two calendar days. Such equipment includes amongst others:

- Condensate Export Pumps
- Condensate Booster Pumps
- Condensate Reflux Pumps

A -2.3 SAFETY SYSTEMS (PRIORITY 1)

Safety equipment is regarded as Priority No. 1 equipment. Upon failure of such equipment, e.g. fire water pumps and fire and gas detection systems, compensatory measures shall be implemented until the situation has been restored.

Unavailability of safety equipment which only constitutes a marginal reduction in the safety level (i.e. compensatory measures can be implemented at little additional cost) shall be put back in service as soon as practical in a planned manner.

A -2.4 UTILITY SYSTEMS (CRITICAL PRIORITY 1, ELSE PRIORITY 2)

Failure of utility systems resulting in a direct shutdown or severely reduced production shall be repaired in accordance with the principles of Priority No. 1 equipment. Based on the failure frequency of utility equipment, standby units shall be repaired in accordance with the principles for Priority No. 2 equipment. Utility equipment directly required to maintain production is:

- Kongsberg Turbo generators (minimum one in standby)
- Sea Water Winning Pumps (minimum one in standby)
- MEG and TEG Injection Pumps
- Air Compressors
- Hot Oil Circulation Pumps

With respect to the Kongsberg Turbo generators, they shall be monitored (running hours) and operated such that they will come up for major overhauls at different time periods (permutation).

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	Frøy	1	Frøy Well Head Platform Process	Frigg Control & Data Aquisition	11I02		
Frigg	Frøy	1	Frøy Well Head Platform Process	Producers Wellh & Manif	11P01		
Frigg	Frøy	1	Frøy Well Head Platform Process	Water Injection System	11P03	WATER INJECTION MANIFOLD	M009
Frigg	Frøy	1	Frøy Well Head Platform Process	Water Injection System	11P03	WATER INJECTION FILTERING	V004
Frigg	Frøy	1	Frøy Well Head Platform Process	Oil & Gas Treatment & Export	11P05	GAS COOLER	E 001
Frigg	Frøy	1	Frøy Well Head Platform Process	Oil & Gas Treatment & Export	11P05	LIQUID EXPORT PUMP A	P 001A
Frigg	Frøy	1	Frøy Well Head Platform Process	Oil & Gas Treatment & Export	11P05	LIQUID EXPORT PUMP B	P 001B
Frigg	Frøy	1	Frøy Well Head Platform Process	Oil & Gas Treatment & Export	11P05	P001B ELECTRICAL MOTOR HV	PM001B
Frigg	Frøy	1	Frøy Well Head Platform Process	Oil & Gas Treatment & Export	11P05	P001A ELECTRICAL MOTOR HV	PM001BA
Frigg	Frøy	1	Frøy Well Head Platform Process	Oil & Gas Treatment & Export	11P05	PRODUCTION SEPARATOR	V 001
Frigg	Frøy	1	Frøy Well Head Platform Process	Oil & Gas Treatment & Export	11P05	TEST SEPARATOR	V 002
Frigg	Frøy	1	Frøy Well Head Platform Process	Pig Launchers	11P06	OIL PIG LAUNCHER	M 002
Frigg	Frøy	1	Frøy Well Head Platform Process	Pig Launchers	11P06	GAS PIG LAUNCHER	M001
Frigg	Frøy	1	Frøy Well Head Platform Process	Process Drain & Vent	11P07	VENT TIP	M 010
Frigg	Frøy	1	Frøy Well Head Platform Process	Process Drain & Vent	11P07	HAZARDOUS OPEN DRAIN	M 030
Frigg	Frøy	1	Frøy Well Head Platform Process	Process Drain & Vent	11P07	VENT K O DRUM PUMPS	P014
Frigg	Frøy	1	Frøy Well Head Platform Process	Process Drain & Vent	11P07	VENT K O DRUM	V 003
Frigg	Frøy	1	Frøy Well Head Platform Process	Chemical Injection	11P08	CHEMICAL INJECTION	Q 003
Frigg	Frøy	1	Frøy Well Head Platform Process	Hydraulic Oil	11P09	HYDRAULIC POWER UNIT	Q 001
Frigg	Frøy	1	Frøy Well Head Platform Process	Nitrogen	11U05	NITROGENE CONTROL PANEL	M033
Frigg	Frøy	2	Frøy Well Head Platform Others	HV Switchgear & Transfo	11E01	ELEC TRANSFORMER 22 KV/5,5 KV	PT 001
Frigg	Frøy	2	Frøy Well Head Platform Others	HV Switchgear & Transfo	11E01	ELEC TRANSFORMER 5,5 KV/380 V	PT 002
Frigg	Frøy	2	Frøy Well Head Platform Others	HV Switchgear & Transfo	11E01	5,5 KV MAIN SWITCHBOARD	SWB 001
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	220/380 V DISTRIBUTION BOARD	DB 001
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	220/380 V DISTRIBUTION BOARD	DB 002
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	380 V UPS DISTRIBUTION BOARD	DB 003
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	ACCOM 220V SM/PWR DISTRB BOARD	DB 005
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	220/380 V DISTRIBUTION BOARD	DB 221
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	220/380 V DISTRIBUTION BOARD	DB 222
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	220/380 V DISTRIB BOARD (UPS)	DB 223
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	220/380 V DISTRIBUTION BOARD	DB 224
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	220 V DISTRIBUTION BOARD	DB 225
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	380 V MAIN SWITCHBOARD	SWB 002
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	380 V ESSENTIAL SWITCHBOARD	SWB 003
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	HVAC SWITCHBOARD	SWB 224A
Frigg	Frøy	2	Frøy Well Head Platform Others	380/220V Switchgear & Distrib	11E02	HVAC SWITCHBOARD (FANS)	SWB 224B
Frigg	Frøy	2	Frøy Well Head Platform Others	Diesel Generator & UPS	11E03	BACK-UP DIESEL GENERATOR	M 020
Frigg	Frøy	2	Frøy Well Head Platform Others	Diesel Generator & UPS	11E03	UPS SYSTEMS	UPS 001
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	BATTERY BANK	BA 002
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	MAIN&SECONDARY LIGHT STATION 1	NA 001
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	MAIN&SECONDARY LIGHT STATION 2	NA 002
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	SUB LIGHT NO 1	NA 003

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	SUB LIGHT NO 2	NA 004
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	FOG STATION NO 1	NA 005
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	FOG STATION NO 2	NA 006
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	NAVIGATION AIDS CONTROL PANEL	NA 007
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	PHOTOCELL	NA 008
Frigg	Frøy	2	Frøy Well Head Platform Others	Navigation Aids	11E04	BATTERY CHARGER-NAV AID BTTERY	NC 001
Frigg	Frøy	2	Frøy Well Head Platform Others	Lighting	11E05		
Frigg	Frøy	2	Frøy Well Head Platform Others	Trace Heating	11E06	HEAT TRACING DISTRIBUT BOARD	DB 004
Frigg	Frøy	2	Frøy Well Head Platform Others	Trace Heating	11E06	HEAT TRACING DISTRIBUT BOARD	DB-204
Frigg	Frøy	2	Frøy Well Head Platform Others	Ex Equipment Elec-Inst-Telec	11E20		
Frigg	Frøy	2	Frøy Well Head Platform Others	Safety Systems	11I01		
Frigg	Frøy	2	Frøy Well Head Platform Others	Optical & Radio Communication	11T01		
Frigg	Frøy	2	Frøy Well Head Platform Others	Public Adress, Telephone, CCTV	11T02		
Frigg	Frøy	2	Frøy Well Head Platform Others	Diesel Fuel Oil	11U01	DIESEL FILTER	V 005
Frigg	Frøy	2	Frøy Well Head Platform Others	Diesel Fuel Oil	11U01	M032 LEVEL TRANSMITTER	LT 1024
Frigg	Frøy	2	Frøy Well Head Platform Others	Diesel Fuel Oil	11U01	DIESEL STORAGE TANK	M 032
Frigg	Frøy	2	Frøy Well Head Platform Others	Diesel Fuel Oil	11U01	DIESEL TRANSFER PUMP	P 006
Frigg	Frøy	2	Frøy Well Head Platform Others	Diesel Fuel Oil	11U01	P006 ELECTRICAL MOTOR	PM 006
Frigg	Frøy	2	Frøy Well Head Platform Others	Fire Water	11U02		
Frigg	Frøy	2	Frøy Well Head Platform Others	Life Saving Appliances	11U03		
Frigg	Frøy	2	Frøy Well Head Platform Others	Crane & Lifting Gear	11U04	MOLDE CRANE M015	M 015
Frigg	Frøy	2	Frøy Well Head Platform Others	Fresh Water	11U06	M006 HEATER	H 002
Frigg	Frøy	2	Frøy Well Head Platform Others	Fresh Water	11U06	FRESH WATER TANK	M 006
Frigg	Frøy	2	Frøy Well Head Platform Others	Fresh Water	11U06	SAFETY SHOWER AND EYEBATH	M 103
Frigg	Frøy	2	Frøy Well Head Platform Others	Fresh Water	11U06	P103 ELECTRICAL MOTOR	PM 103
Frigg	Frøy	2	Frøy Well Head Platform Others	Fresh Water	11U06	PM103 ELECTRICAL CIRCUIT	PM 103
Frigg	Frøy	2	Frøy Well Head Platform Others	Sewage	11U07		
Frigg	Frøy	2	Frøy Well Head Platform Others	HVAC	11U11		
Frigg	Frøy	2	Frøy Well Head Platform Others	Accomodations & Galley	11U12		
Frigg	Frøy	2	Frøy Well Head Platform Others	Containers and Temp Equipm	11U14		
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY PRODUCED WATER	05A04	HYDROCYCLONE PACKAGE FRØY-M35	CQ 601
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY PRODUCED WATER	05A04	HYDROCYCLONE PACKAGE FRØY-M35	CQ 606
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY PRODUCED WATER	05A04	FROY PRODUCED WATER DEGAS DRUM	CV630
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY GAS INLET	05A06	FROY GAS INLET HEATER	CE615
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY GAS INLET	05A06	FROY GAS SEPARATOR	CV626
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY HC CHEMICALS	05A11	FROY CHEM INJEC PROCESS PACKAG	CQ608
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY OIL & GAS PIG RECEIVERS	05P26	FROY OIL PIG RECEIVER	CM601
Frigg	TCP2	3	Frøy M35 gas/oil	FRØY OIL & GAS PIG RECEIVERS	05P26	FROY GAS PIG RECEIVER	CM602
Frigg	TCP2	3	Frøy M35 gas/oil	LF & FRØY CONDENSATE TREATMENT	05P29	FROY OIL INLET HEATER	CE607
Frigg	TCP2	3	Frøy M35 gas/oil	LF & FRØY CONDENSATE TREATMENT	05P29	OILY WATER RECIR PUMPS CP609	CP609
Frigg	TCP2	3	Frøy M35 gas/oil	LF & FRØY CONDENSATE TREATMENT	05P29	FROY OIL TRANSFER PUMP A	CP618A
Frigg	TCP2	3	Frøy M35 gas/oil	LF & FRØY CONDENSATE TREATMENT	05P29	FROY OIL TRANSFERT PUMP B	CP618B

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	3	Frøy M35 gas/oil	LF & FRØY CONDENSATE TREATMENT	05P29	FROY OIL 1ST STAGE SEPARATOR	CV628
Frigg	TP1	4	LF Subsea and Topside Gas/Oil Proc	GLYCOL-STORAGE-FILLPUMP	02P08	P13A & P13B GLYCOL FILL PUMPS	P13A/B
Frigg	TP1	4	LF Subsea and Topside Gas/Oil Proc	GLYCOL-STORAGE-FILLPUMP	02P08	V9-GLYCOL STORAGE TANK	V9
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG HEAT EXCHANGER	CE508
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG INJECTION PUMP	CP502A
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG INJECTION PUMP	CP502B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG INJECTION PUMP	CP502C
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG DRAIN PUMP	CP513A
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG DRAIN PUMP	CP513B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	HOT DEG RECIRCULATION PUMP	CP535A
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	HOT DEG RECIRCULATION PUMP	CP535B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG BOOSTER PUMP	CP546
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG REGENERATION UNIT	CQ1C
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG INJECTION CONTROL	CQ501
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	AMMONIA INJECTION UNIT	CQ530
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	CONDENSATE SEPARATOR	CV14B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	CONDENSATE SEPARATOR	CV14C
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	TEG FILTER	CV15B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG SURGE TANK	CV17C
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	TEG CHARCOAL FILTER	CV20B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG BUFFER TANK	CV2C
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG INJECTION FILTER	CV511
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	DEG FILTER	CV515C
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	DEG INJECTION & REGENERATION	05A03	AIR SUPPLY FAN	FN1C
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF CHEMICAL INJECTION	05A12	CP510A/B CORR INH INJ PUMP LF	CP510A/B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil I roc	LF CHEMICAL INJECTION	05A12	CV510 CORR INHIBITOR TANK LF	CV510
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF & FRØY CONDENSATE TREATMENT	05A14	LILLE FRIGG CONDENSATE PUMP A	CP619A
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF & FRØY CONDENSATE TREATMENT	05A14	LILLE FRIGG CONDENSATE PUMP B	CP619B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF & FRØY CONDENSATE TREATMENT	05A14	CONDENSATE/CONDENSATE EXCHANGE	CE501
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF GAS INLET & TREATMENT	05P20	GAS PIG RECEIVER (LF)	CM501
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF GAS INLET & TREATMENT	05P20	LF SLUG CATCHER	CV210
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF GAS INLET & TREATMENT	05P20	LF GAS SCRUBBER	CV211
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	LF GAS INLET & TREATMENT	05P20	LF CONDENSATE SEPARATOR	CV502
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	HYDRAULIC HP PUMP	CP540
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	PNEUMATIC HP PUMP	CP541A/B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	HYDRAULIC VHP PUMP	CP542
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	PNEUMATIC VHP PUMP	CP543A/B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	CIRCULATION PUMP	CP544
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	N2-CHARGING PUMP	CP545
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	RESERVOIR	CV540
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	HP ACCUMULATOR	CV541A/B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	HP SUPPLY FILTERS	CV542A/B

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	VHP ACCUMULATOR	CV543A/B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	VHP FILTERS	CV544A/B
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	CIRCULATION FILTER	CV545
Frigg	TCP2	4	LF Subsea and Topside Gas/Oil Proc	HYDRAULIC POWER UNIT SUBSEA LF	05U32	SDV ACCUMULATOR	CV546
Frigg	TCP2	4		HEATING MEDIUM LF-FRØY	05U34	CE502 CONDENSATE HEATER	CE502
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	CONDENSATE PIG LAUNCHER	CM502
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	CONDENSATE EXPORT PUMP LF	CP501A/B
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	OIL BOOSTER PUMP A	CP503A
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	OIL BOOSTER PUMP B	CP503B
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	OIL BOOSTER PUMP C	CP503C
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	FRIGG OIL EXPORT PUMP A/B	CP605A/B
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	STABILISED CRUDE SEPARATOR	CV503
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	FRIGG OIL 2SD STAGE SEPARATOR	CV629
Frigg	TCP2	5	TCP2 Oil Export	LF & FRØY LIQUID EXPORT	05A07	LINES UPSTREAM PIG LAUNCHER	
Frigg	TP1	6	EF Subsea and Inlet	METHANOL	02P10	P12A/B-METHANOL INJECTION PUMP	P12A/B
Frigg	TP1	6	EF Subsea and Inlet	METHANOL	02P10	P17A & B-METHANOL TRANSF PUMPS	P17A/B
Frigg	TP1	6	EF Subsea and Inlet	METHANOL	02P10	V23-METHANOL STORAGE TANK	V23
Frigg	TCP2	6	EF Subsea and Inlet	EF METHANOLATED WATER	05A05	METHANOL WATER FLASH DRUM EF	CV-320
Frigg	TCP2	6	EF Subsea and Inlet	EF CHEMICAL INJECTION	05A13	CORR INHIBIT INJECT PUMP A & B EF	CP-370A/B
Frigg	TCP2	6	EF Subsea and Inlet	EF CHEMICAL INJECTION	05A13	CORR INHIBITOR STORAGE TANK EF	CV-370
Frigg	TCP2	6	EF Subsea and Inlet	METHANOL	05P10	CP12A-METHANOL INJECTION PUMP	CP12 A
Frigg	TCP2	6	EF Subsea and Inlet	METHANOL	05P10	CP12B-METHANOL INJECTION PUMP	CP12 B
Frigg	TCP2	6	EF Subsea and Inlet	METHANOL	05P10	CP17A & B-METHANOL TRANSF PUMP	CP17 A/B
Frigg	TCP2	6	EF Subsea and Inlet	METHANOL	05P10	NEF METH INJ PUMPS PACK CP228	CP228 A/B
Frigg	TCP2	6	EF Subsea and Inlet	METHANOL	05P10	METHANOL INJECT UNIT SEA LINE	CP-32A
Frigg	TCP2	6	EF Subsea and Inlet	METHANOL	05P10	METHANOL INJECT UNIT SEA LINE	CP-32B
Frigg	TCP2	6	EF Subsea and Inlet	METHANOL	05P10	CV23-METHANOL STORAGE TANK	CV23
Frigg	TCP2	6	EF Subsea and Inlet	ODIN & NEF TEG CIRCULATION	05P21	TEG HEAT EXCHANGER EF EF	CE311
Frigg	TCP2	6	EF Subsea and Inlet	ODIN & NEF TEG CIRCULATION	05P21	TEG RECIRCUL PUMP EF	CP 320A
Frigg	TCP2	6	EF Subsea and Inlet	ODIN & NEF TEG CIRCULATION	05P21	TEG RECIRCUL PUMP EF	CP 320B
Frigg	TCP2	6	EF Subsea and Inlet	ODIN & NEF CONDENSATE SEPARAT	05P22	EF COND /METHANOL SEPARATOR	CV313
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS TREATMENT (12/14)	05P23	METHANOL INJECTION PACKAGE EF	CO-350
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS TREATMENT (12/14)	05P23	METHANOL INJECT UNIT SEA LINE	CP-32A
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS TREATMENT (12/14)	05P23	METHANOL INJECT UNIT SEA LINE	CP-32B
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS TREATMENT (12/14)	05P23	METHANOL STORAGE TANK EF	CV-350A
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS TREATMENT (12/14)	05P23	METHANOL STORAGE TANK EF	CV-350B
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS TREATMENT (12/14)	05P23	METHANOL FLASH TANK EF	CV-360
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS TREATMENT (12/14)	05P23	METHANOL DRAIN TANK	CV-56
Frigg	TCP2	6	EF Subsea and Inlet	EF WELLHEAD HYDRAULIC	05P24	HYDRAULIC POWER UNIT	CO-340
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS INLET & TREATMENT	05P25	EAST FRIGG SLUG CATCHER	CV310
Frigg	TCP2	6	EF Subsea and Inlet	EF GAS INLET & TREATMENT	05P25	EAST FRIGG METERING SCRUBBER	CV311
Frigg	EF s s	6	EF Subsea and Inlet	ELECTRICAL LINES	09E60		

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment		Tag No
Frigg	EF s s	6	EF Subsea and Inlet	X-MAS TREE MODULES	09P15	X-MAS TREE MODULE No5 SLOT A1		A1-XTM
Frigg	EF s s	6	EF Subsea and Inlet	X-MAS TREE MODULES	09P15	X-MAS TREE MODULE No1 SLOT A2		A2-XTM
Frigg	EF s s	6	EF Subsea and Inlet	X-MAS TREE MODULES	09P15	X-MAS TREE MODULE No4 SLOT A4		A4-XTM
Frigg	EF s s	6	EF Subsea and Inlet	X-MAS TREE MODULES	09P15	X-MAS TREE MODULE No3 SLOT B2		B2-XMT
Frigg	EF s s	6	EF Subsea and Inlet	X-MAS TREE MODULES	09P15	X-MAS TREE MODULE No2 SLOT B3		B3-XMT
Frigg	EF s s	6	EF Subsea and Inlet	WELLS	09P18	WELL 25/2-A2 SLOT A1	A1-WELL	A1-WELL
Frigg	EF s s	6	EF Subsea and Inlet	WELLS	09P18	WELL 25/2-A3 SLOT A2	A2-WELL	A2-WELL
Frigg	EF s s	6	EF Subsea and Inlet	WELLS	09P18	WELL 25/2-A1 SLOT A4	A4-WELL	A4-WELL
Frigg	EF s s	6	EF Subsea and Inlet	WELLS	09P18	WELL 25/2-B2 SLOT B2	B2-WELL	B2-WELL
Frigg	EF s s	6	EF Subsea and Inlet	WELLS	09P18	WELL 25/2-B1 SLOT B3	B3-WELL	B3-WELL
Frigg	EF s s	6	EF Subsea and Inlet	WELLHEADS	09P20	WELLHEAD SLOT A1		A1-WELLH
Frigg	EF s s	6	EF Subsea and Inlet	WELLHEADS	09P20	WELLHEAD SLOT A2		A2-WELLH
Frigg	EF s s	6	EF Subsea and Inlet	WELLHEADS	09P20	WELLHEAD SLOT A4		A4-WELLH
Frigg	EF s s	6	EF Subsea and Inlet	WELLHEADS	09P20	WELLHEAD SLOT B2		B2-WELLH
Frigg	EF s s	6	EF Subsea and Inlet	WELLHEADS	09P20	WELLHEAD SLOT B3		B3-WELLH
Frigg	EF s s	6	EF Subsea and Inlet	WELLJUMPER MODULES	09P25	WELLJUMPER MODULE No3 SLOT A1		A1-WJM
Frigg	EF s s	6	EF Subsea and Inlet	WELLJUMPER MODULES	09P25	WELLJUMPER MODULE SLOT A2		A2-WJM
Frigg	EF s s	6	EF Subsea and Inlet	WELLJUMPER MODULES	09P25	WELLJUMPER MODULE No2 SLOT A4		A4-WJM
Frigg	EF s s	6	EF Subsea and Inlet	WELLJUMPER MODULES	09P26	WELLJUMPER MODULE No1 SLOT B2		B2-WJM
Frigg	EF s s	6	EF Subsea and Inlet	WELLJUMPER MODULES	09P26	WELLJUMPER MODULE No4 SLOT B3		B3-WJM
Frigg	EF s s	6	EF Subsea and Inlet	STATION CONTROL MODULE	09P35	STATION CONTROL MODULE No1		A-SCM
Frigg	EF s s	6	EF Subsea and Inlet	STATION CONTROL MODULE	09P36	STATION CONTROL MODULE No2		B-SCM
Frigg	EF s s	6	EF Subsea and Inlet	BUOY	09T05	BUOY		MB1
Frigg	EF s s	6	EF Subsea and Inlet	BUOY	09T05	BUOY		MB2
Frigg	EF s s	6	EF Subsea and Inlet	BUOY	09T05	BUOY		MB3
Frigg	EF s s	6	EF Subsea and Inlet	MODULES INTERVENTION SYSTEMS	09U45	MODULE GUIDELINE INTERVE TOOL		GLIT
Frigg	EF s s	6	EF Subsea and Inlet	MODULES INTERVENTION SYSTEMS	09U45	MECH AUTOLOCK CONN HYD HANDLIN		MACH
Frigg	EF s s	6	EF Subsea and Inlet	MODULES INTERVENTION SYSTEMS	09U45	MODULE HANDLING TOOL		MHT
Frigg	EF s s	6	EF Subsea and Inlet	MODULES INTERVENTION SYSTEMS	09U45	PTM-GBP HANDLING TOOL		PHT
Frigg	EF s s	6	EF Subsea and Inlet	MODULES INTERVENTION SYSTEMS	09U45	PIG TRAP MODULE		PTM
Frigg	EF s s	6	EF Subsea and Inlet	MODULES INTERVENTION SYSTEMS	09U45	RUNNING INTERCONNECTION TOOL		RIT
Frigg	EF s s	6	EF Subsea and Inlet	WELL INTERVENTION SYSTEMS	09U46	GUIDE POST INSTALLATION TOOL		GPIT
Frigg	EF s s	6	EF Subsea and Inlet	WELL INTERVENTION SYSTEMS	09U46	XTM RUN TOOL LOWER RISER PKG		LRP
Frigg	EF s s	6	EF Subsea and Inlet	WELL INTERVENTION SYSTEMS	09U46	X-MAS TREE CAP RUNNING TOOL		XTCRT
Frigg	EF s s	6	EF Subsea and Inlet	SEALINES	09U50			
Frigg	EF s s	6	EF Subsea and Inlet	UMBILICAL	09U55			
Frigg	EF s s	6	EF Subsea and Inlet	INSTALLATION INTERVENTION SYST	09U70	CAP HANDLING TOOL		CHT
Frigg	EF s s	6	EF Subsea and Inlet	INSTALLATION INTERVENTION SYST	09U70	LINE CONNECTING TOOL		LCT
Frigg	EF s s	6	EF Subsea and Inlet	INSTALLATION INTERVENTION SYST	09U70	LANDING AND TESTING TOOL		LTT
Frigg	EF s s	6	EF Subsea and Inlet	INSTALLATION INTERVENTION SYST	09U70	PULLING AND LOCKING TOOL		PLT
Frigg	EF s s	6	EF Subsea and Inlet	IIS - GENERAL SURVEY PROGRAM	09Y01			
Frigg	EF s s	6	EF Subsea and Inlet	TEMPLATE	09Z10	CMS TEMPLATE		CST

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	EF s s	6	EF Subsea and Inlet	TEMPLATE	09Z10	PSA TEMPLATE	PST1
Frigg	EF s s	6	EF Subsea and Inlet	TEMPLATE	09Z11	PSB TEMPLATE	PST2
Frigg	EF s s	6	EF Subsea and Inlet	MANIFOLD	09Z40	PRODUCTION STATION A MANIFOLD	PSM1
Frigg	EF s s	6	EF Subsea and Inlet	MANIFOLD	09Z41		
Frigg	EF s s	6	EF Subsea and Inlet	BUNDLES	09Z54		
Frigg	DP2	7	DP2 Platform Process	Diverted Low & High Pres Mud	04D00		
Frigg	DP2	7	DP2 Platform Process	Drilling Module	04D01		
Frigg	DP2	7	DP2 Platform Process	Storage Bulk	04D02		
Frigg	DP2	7	DP2 Platform Process	Drilling Equipment	04D03		
Frigg	DP2	7	DP2 Platform Process	Drilling Hoists	04D04		
Frigg	DP2	7	DP2 Platform Process	Drilling HVAC	04D06		
Frigg	DP2	7	DP2 Platform Process	Wells	04D07		
Frigg	DP2	7	DP2 Platform Process	Control Room	04I03		
Frigg	DP2	7	DP2 Platform Process	FCDA	04I21	PCU / PCV	BAILEY
Frigg	DP2	7	DP2 Platform Process	FCDA	04I21	DP2 PCU-A	DP2 PCU-A
Frigg	DP2	7	DP2 Platform Process	FCDA	04I21	DP2 PCV	DP2 PCV
Frigg	DP2	7	DP2 Platform Process	Gas x-mas tree & Cameron	04P01		
Frigg	DP2	7	DP2 Platform Process	Gas-Scrubber DES & Masonelian	04P02	GAS SCRUBBER DESANDER WELL-1	FA201A
Frigg	DP2	7	DP2 Platform Process	Gas-Scrubber DES & Masonelian	04P02	HYDRAULIC UNIT (CHOKE VALVES)	GH216AX
Frigg	DP2	7	DP2 Platform Process	Gas Header	04P08	GAS HEADER	FF83-0000-5021
Frigg	DP2	7	DP2 Platform Process	Gas Header	04P08	PA-200A GAS SCRAPER TRAP	PA-200A
Frigg	DP2	7	DP2 Platform Process	Gas Header	04P08	PA-200B-GAS SCRAPER TRAP	PA-200B
Frigg	DP2	7	DP2 Platform Process	Mud-Scraper Trap Receiver	04P09	MUD KILL LINE AND SCRAPER TRAP	
Frigg	DP2	7	DP2 Platform Process	Methanol Storage & Injection	04P10		
Frigg	DP2	7	DP2 Platform Process	Methanolated Water Injection	04P11		
Frigg	DP2	7	DP2 Platform Process	Nitrogen System (ACC Bottles)	04P18		
Frigg	DP2	7	DP2 Platform Process	Corrosion Inhibitor	04U01		
Frigg	DP2	8	DP2 Platform Other	Control Panel	04E01		
Frigg	DP2	8	DP2 Platform Other	Transformers 5,5KV/380V	04E02	TRANSFORMER 5 5KV/380V	T7
Frigg	DP2	8	DP2 Platform Other	Switch Gear 5,5KV	04E03		
Frigg	DP2	8	DP2 Platform Other	Switch Gear-MCC 380V	04E04		
Frigg	DP2	8	DP2 Platform Other	Switch Gear 48V	04E05		
Frigg	DP2	8	DP2 Platform Other	Battery Chargers-Batteries	04E06		
Frigg	DP2	8	DP2 Platform Other	Navigation Aids	04E07		
Frigg	DP2	8	DP2 Platform Other	Lighting	04E08		
Frigg	DP2	8	DP2 Platform Other	DC Static Converter	04E09		
Frigg	DP2	8	DP2 Platform Other	Earthing Safety Systems	04E11		
Frigg	DP2	8	DP2 Platform Other	General Cableplant	04E12		
Frigg	DP2	8	DP2 Platform Other	Trace Heating	04E13		
Frigg	DP2	8	DP2 Platform Other	Electric Generator Set AC & DC	04E16	STAND-BY GENERATOR	GE-200
Frigg	DP2	8	DP2 Platform Other	DC Systems For Drilling	04E17		
Frigg	DP2	8	DP2 Platform Other	Ex Equipment Elec-Inst-Telec	04E20		

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	DP2	8	DP2 Platform Other	Safety Systems	04I01		
Frigg	DP2	8	DP2 Platform Other	Structural Measurement System	04I02		
Frigg	DP2	8	DP2 Platform Other	Misceallaneous	04I04		
Frigg	DP2	8	DP2 Platform Other	Waste Water	04U02		
Frigg	DP2	8	DP2 Platform Other	Sea Water	04U03		
Frigg	DP2	8	DP2 Platform Other	Soft Water	04U05		
Frigg	DP2	8	DP2 Platform Other	Gas Oil Pumps & Tank	04U06		
Frigg	DP2	8	DP2 Platform Other	Compressed Air	04U07	AIR COMPRESSORS GB270A/B	GB270A/B
Frigg	DP2	8	DP2 Platform Other	HVAC	04U08		
Frigg	DP2	8	DP2 Platform Other	Handling Equip , MK60 Cranes	04U09	CRANE-WEST SIDE	DP2-LIEBHERR
Frigg	DP2	8	DP2 Platform Other	Handling Equip , MK60 Cranes	04U09	CRANE-EAST SIDE	DP2-MK60
Frigg	DP2	8	DP2 Platform Other	Lifeboats Raft	04U10		
Frigg	DP2	8	DP2 Platform Other	Fire System	04U11	GA207A FIRE WATER PUMP, DIESEL	GA207A
Frigg	DP2	8	DP2 Platform Other	Fire System	04U11	GA207B FIRE WATER PUMP, DIESEL	GA207B
Frigg	DP2	8	DP2 Platform Other	Galley & Living Quarters	04U12		
Frigg	DP2	8	DP2 Platform Other	Hand Tools	04U13		
Frigg	DP2	8	DP2 Platform Other	Vibration Monitoring	04U31		
Frigg	DP2	8	DP2 Platform Other	General Survey Program	04Y01		
Frigg	TCP2	9	DP2 Inlet	FRIGG GAS PIG TRAP	05P01	GAS PIG RECEIVER (DP2)	CM2
Frigg	TCP2	9	DP2 Inlet	FRIGG GAS INLET & TREATMENT	05P02	FRIGG GAS FWKO SEPARATOR	CV1C
Frigg	TCP2	9	DP2 Inlet	FRIGG GAS INLET & TREATMENT	05P02	ODIN GAS SCRUBBER	CV201
Frigg	TCP2	9	DP2 Inlet	FRIGG GAS INLET & TREATMENT	05P02	LINE TO COMPRESSION ESDVCV1 9	
Frigg	TP1	10	Alwyn & TP1 Process	L1 CORROSION INHIBITOR	02A01	SEA LINE CORROSION INHIBITOR	P14 A/B
Frigg	TP1	10	Alwyn & TP1 Process	ALWYN & SALES GAS METERING	02P04		
Frigg	TP1	10	Alwyn & TP1 Process	GAS-PIG LAUNCHER M3	02P05	M3-PIG LAUNCHER	M3
Frigg	TP1	10	Alwyn & TP1 Process	GAS-PIG RECEIVER M28 (ATI)	02P06	GAS-PIG RECEIVER	M28
Frigg	TP1	10	Alwyn & TP1 Process	GAS-PIG RECEIVER M28 (ATI)	02P06	AIR RESERV TANK FCV M28-1A/B/C	V28
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY GAS LIFT	05A02	K506 AFTERCOOLER	CE509
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY GAS LIFT	05A02	K506 SUCTION SCUBBER	CV509
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY GAS LIFT	05A02	PRESSURE TANK	CV527
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY GAS LIFT	05A02	STARTUP/ GAS LIFT COMPRESSOR	K506
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY W.I. CHEMICALS	05A08	ELECTRO CHLORINATION UNIT	CQ602
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY W.I. CHEMICALS	05A08	FROY CHEMICAL INJECTION PACKAG	CQ605
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	CP607A ELECTRICAL MOTOR	CM621A
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	CP607B ELECTRICAL MOTOR	CM621B
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FROY WATER INJECT FEED PUMP A	CP606A
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	CP606A ELECTRICAL MOTOR	CP606A
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FROY WATER INJECT FEED PUMP B	CP606B
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	CP606B ELECTRICAL MOTOR	CP606B
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FROY WATER INJECTION PUMP A	CP607A
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FROY WATER INJECTION PUMP B	CP607B
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FROY WAT INJ PRE-BOOST PUMP A	CP626A

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FROY WAT INJ PRE-BOOST PUMP B	CP626B
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	SULFURIC ACID STORAGE & PUMPS	CQ603
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	AIR RECEIVER	CV613
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FINE FILTER VESSEL A	CV619A
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FINE FILTER VESSEL B	CV619B
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	FINE FILTER VESSEL C	CV619C
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	GAS CYCLONE	CV620
Frigg	TCP2	11	Water Injection & Gas Lift	FRØY WATER INJECTION	05P31	DEAERATION TOWER & VACUUM PUMP	CV646
Frigg	TCP2	12	Gas Treatm & Export TCP2	L2 CHEMICAL INJECTION	05A09		
Frigg	TCP2	12	Gas Treatm & Export TCP2	GAS-GLYCOL CONTACTORS CV2A/B/C	05P03	CV2A-GLYCOL CONTACTORS	CV2A
Frigg	TCP2	12	Gas Treatm & Export TCP2	GAS-GLYCOL CONTACTORS CV2A/B/C	05P03	CV2B-GLYCOL CONTACTORS	CV2B
Frigg	TCP2	12	Gas Treatm & Export TCP2	GAS-GLYCOL CONTACTORS CV2A/B/C	05P03	OFF-GAS COMPRESSOR K507	K507
Frigg	TCP2	12	Gas Treatm & Export TCP2	SALES GAS LINES A-B-C	05P04		
Frigg	TCP2	12	Gas Treatm & Export TCP2	SALES GAS HEADER & PIG TRAP	05P05	GAS PIG LAUNCHER EQUIPM	CM3
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG HEAT EXCHANGER	CE1A-1
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG HEAT EXCHANGER	CE1A-2
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG HEAT EXCHANGER	CE1B1
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG HEAT EXCHANGER	CE1B2
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	AIR COOLED HEAT EXCHANGER	CE2A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	AIR COOLED TEG HEAT EXCHANGER	CE2B
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG PUMP	CP10A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG PUMP	CP10B
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG PUMP	CP10C
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG PUMP	CP10D
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG FILL PUMP	CP13A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG FILL PUMP	CP13B
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG REGENERATION UNIT	CQ1A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG REGENERATION UNIT	CQ1B
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	CONDENSATE SEPARATOR	CV14A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG FILTER	CV15A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG SURGE TANK	CV17A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG SURGE TANK	CV17B
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG STORAGE TANK	CV1B
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG CHARCOAL FILTER	CV20A
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	TEG SLOP TANK	CV45
Frigg	TCP2	12	Gas Treatm & Export TCP2	TEG INJECTION & REGENERATION	05P09	AIR SUPPLY FAN	FN1A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	AFTERCOOLER 1ST STAGE TRAIN A	CE601A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	AFTERCOOLER 1ST STAGE TRAIN B	CE601B
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	AFTERCOOLER 2ND STAGE TRAIN A	CE602A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	AFTERCOOLER 2ND STAGE TRAIN B	CE602B
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K601A ELECTRICAL MOTOR HT	CM605A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K601B ELECTRICAL MOTOR HT	CM605B

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K602A ELECTRICAL MOTOR HT	CM606A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K602B ELECTRICAL MOTOR HT	CM606B
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	LUBE OIL SKID FOR K601A/K602A	CQ609
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	LUBE OIL SKID FOR K601B/K602B	CQ610
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K601A SUCTION SCRUBBER	CV601A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K601B SUCTION SCRUBBER	CV601B
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K602A SUCTION SCRUBBER	CV602A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	K602B SUCTION SCRUBBER	CV602B
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	1ST STAGE COMPRESSOR TRAIN A	K601A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	1ST STAGE COMPRESSOR TRAIN B	K601B
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	2ND STAGE COMPRESSOR TRAIN A	K602A
Frigg	TCP2	13	Frøy & LF Gas Compression	FRØY GAS COMPRESSION	05P27	2ND STAGE COMPRESSOR TRAIN B	K602B
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RECYCLE PUMP	CP15A
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RECYCLE PUMP	CP15B
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RETURN PUMP	CP2A
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RETURN PUMP	CP2B
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	SLOPS OIL PUMP	CP9A
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	SLOPS OIL PUMP	CP9B
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE SURGE TANK	CV3
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	CONDENSATE RECYCLE TANK	CV33
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	CONDENSATE STORAGE TANK	CV38
Frigg	TCP2	14	Condensate & Reinj Water TCP2	FRIGG & EF CONDENSATE	05P11	OIL SKIMMER	CV5
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CP222A-METHANOL WATER INJ PUMP	CP222A
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CP222B-METHANOL WATER INJ PUMP	CP222B
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CP227-METH WATER INJ COND PUMP	CP227
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CP229-METH WATER INJ W PUMP	CP229
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV220-METHANOL WATER FLASH DR	CV220
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV225A & CP225A CHEMICAL INJ	CV225A
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV225B & CP225B CHEMICAL INJ	CV225B
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV48-METHANOL WATER FILTER	CV48
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV49-METHANOL WATER FILTER	CV49
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV50-METHANOL WATER FILTER	CV50
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV51-METHANOL WATER TANK	CV51
Frigg	TCP2	14	Condensate & Reinj Water TCP2	METHANOLATED & PRODUCED WATER	05P18	CV9-METHANOLATED WATER TANK	CV9
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	P18 1A/B AUX DIES BOOSTER PUMP	P18 1A/B
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	P18A & B-DIESEL BOOSTER PUMPS	P18A/B
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	P8A & P8B-DIESEL PUMPS	P8A/B
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	SP35A-DIESEL COALESCER	SP35A
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	SP35B-DIESEL COALESCER	SP35B
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	SP39A & B-DIESEL PREFILTER	SP39A/B
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	V10-DIESEL BULK STORAGE TANK	V10
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	V11A-FIREWATER PUMP DAY TANK	V11A

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	V11B-FIREWATER PUMP DAY TANK	V11B
Frigg	TP1	15	Fuel Gas CC	DIESEL OIL	02U01	DIESEL TANKS FILTER & PIPING	V22A/B & V21
Frigg	QP	15	Fuel Gas CC	DIESEL FUEL SYSTEM	03U01	P13A-DIESEL TRANSFER PUMP	P13A
Frigg	QP	15	Fuel Gas CC	DIESEL FUEL SYSTEM	03U01	P13B-DIESEL TRANSFER PUMP	P13B
Frigg	QP	15	Fuel Gas CC	DIESEL FUEL SYSTEM	03U01	V1 FIRE PUMP D ENGINE DAY TANK	V1
Frigg	QP	15	Fuel Gas CC	DIESEL FUEL SYSTEM	03U01	V2A & V2B-GENERATOR DAY TANKS	V2 A/B
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	CE3-FUEL GAS HEAT EXHANGER	CE3
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	K504 GAS/WATER AFTERCOOLER	CE504
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	K505 GAS/WATER AFTERCOOLER	CE505
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	K505 GAS/GAS AFTERCOOLER	CE506
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	CV506-NGL DISCHARGE PUMP "A"	CP506
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	CV506-NGL DISCHARGE PUMP "B"	CP506
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	K504 SUCTION SCRUBBER	CV504
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	K505 SUCTION SCRUBBER	CV505
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	K505 DISCHARGE SCRUBBER	CV506
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	GLYCOL/WATER RESERVOIR	CV524
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	CV6-FUEL GAS SCRUBBER	CV6
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	LF FUEL GAS 1ST S COMPRESSOR	K504
Frigg	TCP2	15	Fuel Gas CC	LF FUEL GAS	05P07	LF FUEL GAS 2SD S COMPRESSOR	K505
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	METHANOL PUMP "A"	50X01 P01A
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	METHANOL PUMP "B"	50X01 P01B
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	METHANOL TANK	50X01 T01
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	LOW TEMP SEPARATOR "A"	50X01A B01
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	GAS-GAS HEAT EXCH "A"	50X01A E01
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	LOW TEMP SEPARATOR "B"	50X01B B01
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	GAS-GAS HEAT EXCH "B"	50X01B E01
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	GAS-WATER HEAT EXCH "A"	50X07 E01A
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	GAS-WATER HEAT EXCH "B"	50X07 E01B
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	HOT WATER PUMP "A"	50X07 P01A
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	HOT WATER PUMP "B"	50X07 P01B
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	HOT WATER TANK	50X07 T01
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	WATER HEATERS "A"	50X07E02/03/04/0
Frigg	TCP2	15	Fuel Gas CC	FUEL GAS TCP2C	05P17	WATER HEATERS "B"	50X07E02/03/04/0
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	K603 AFTERCOOLER	CE603
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	K604 FUEL GAS/GAS HEAT EXCHANG	CE604
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	FUEL GAS/WATER HEAT EXCHANGER	CE605
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	K603/K604 ELECTRICAL MOTOR HT	CM607
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	FROY RECYCLED CONDENSAT PUMP A	CP620A
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	FROY RECYCLED CONDENSAT PUMP B	CP620B
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	LUBE OIL SKID FOR K603 & K604	CQ611
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	K603 SUCTION SCRUBBER	CV603
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	K604 INLET SCRUBBER	CV604

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	FUEL GAS DISCHARGE SCRUBBER	CV605
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	1ST STAGE FUEL GAS COMPRESSOR	K603
Frigg	TCP2	15	Fuel Gas CC	FRØY FUEL GAS	05P28	2ND STAGE FUEL GAS COMPRESSOR	K604
Frigg	TCP2	15	Fuel Gas CC	DIESEL FUEL OIL	05U01	CP8A & CP8B-DIESEL OIL PUMPS	CP8 A/B
Frigg	TCP2	15	Fuel Gas CC	DIESEL FUEL OIL	05U01	CV10-DIESEL OIL STORAGE TANK	CV 10
Frigg	TCP2	15	Fuel Gas CC	DIESEL FUEL OIL	05U01	CV11A-FIREWATER PUMP DAY TANK	CV11 A
Frigg	TCP2	15	Fuel Gas CC	DIESEL FUEL OIL	05U01	CV11B-FIREWATER PUMP DAY TANK	CV11B
Frigg	TP1	16	Power Generation & Distribution	SWITCH GEAR 5,5KV	02E02	TA-1 MAIN BREAKER	ACB-101
Frigg	TP1	16	Power Generation & Distribution	SWITCH GEAR 5,5KV	02E02	TA-2 MAIN BREAKER	ACB-102
Frigg	TP1	16	Power Generation & Distribution	SWITCH GEAR 5,5KV	02E02	TA-3 MAIN BREAKER	ACB-103
Frigg	TP1	16	Power Generation & Distribution	SWITCH GEAR 5,5KV	02E02	5,5 KV SWITCH GEARS	ACB-104/5/6
Frigg	TP1	16	Power Generation & Distribution	SWITCH GEAR 5,5KV	02E02	5,5 KV SWITCH GEARS	ACB-107/8/9
Frigg	TP1	16	Power Generation & Distribution	TRANSFORMERS 5,5KV/380V	02E03	TRANSFORMER	T1
Frigg	TP1	16	Power Generation & Distribution	TRANSFORMERS 5,5KV/380V	02E03	TRANSFORMER	T2
Frigg	TP1	16	Power Generation & Distribution	CONTROL DESK MIMIC PANEL	02E04		
Frigg	TP1	16	Power Generation & Distribution	SWITCH GEAR 380V	02E05		
Frigg	TP1	16	Power Generation & Distribution	EMERGENCY PANEL	02E06	EMERGENCY PANEL	DB8
Frigg	TP1	16	Power Generation & Distribution	MAINTAINED NETWORKS 220VAC24VD	02E07	220VAC INVERTER UNIT	DB10
Frigg	TP1	16	Power Generation & Distribution	MAINTAINED NETWORKS 220VAC24VD	02E07	24VDC POWER PACK NO1 & NO2	DB9
Frigg	TP1	16	Power Generation & Distribution	BATTERIES AND CHARGERS	02E08		
Frigg	TP1	16	Power Generation & Distribution	LIGHTING	02E09	LIGHTING DISTRIBUT MCCB(RA4)	DB1
Frigg	TP1	16	Power Generation & Distribution	LIGHTING	02E09	LIGHTING DISTRIBUT MCCB(RN1)	DB2
Frigg	TP1	16	Power Generation & Distribution	LIGHTING	02E09	LIGHTING DISTRIBUT MCCB(RN2)	DB3
Frigg	TP1	16	Power Generation & Distribution	NAVIGATION AIDS	02E10		
Frigg	TP1	16	Power Generation & Distribution	CATODIC PROTECTION	02E11		
Frigg	TP1	16	Power Generation & Distribution	EARTHING PROTECTION	02E12		
Frigg	TP1	16	Power Generation & Distribution	GENERAL CABLEPLANT	02E13		
Frigg	TP1	16	Power Generation & Distribution	TRACE HEATING	02E14	HEAT TRACING PANEL DB-15	DB15
Frigg	TP1	16	Power Generation & Distribution	TRACE HEATING	02E14	HEAT TRACING PANEL DB-16	DB16
Frigg	TP1	16	Power Generation & Distribution	TRACE HEATING	02E14	TRACE HEATING (LH1)	LH1
Frigg	TP1	16	Power Generation & Distribution	EX EQUIPMENT ELEC-INST-TELEC	02E20		
Frigg	QP	16	Power Generation & Distribution	SWITCH GEAR 5 5KV	03E01		
Frigg	QP	16	Power Generation & Distribution	TRANSFORMER 5 5KV/380V	03E02		
Frigg	QP	16	Power Generation & Distribution	EMERGENCY GENERATOR DA1 & DA2	03E03	EMERGENCY DIESEL GENERATOR SET	DA1
Frigg	QP	16	Power Generation & Distribution	EMERGENCY GENERATOR DA1 & DA3	03E03	EMERGENCY DIESEL GENERATOR SET	DA2
Frigg	QP	16	Power Generation & Distribution	SWITCHBOARDS MCC A,B & C	03E04		
Frigg	QP	16	Power Generation & Distribution	LOADSHARING CONTROL UNIT	03E06		
Frigg	QP	16	Power Generation & Distribution	NO BREAK POWER UNIT	03E07		
Frigg	QP	16	Power Generation & Distribution	GROUND POWER UNIT HELICOPTER	03E08		
Frigg	QP	16	Power Generation & Distribution	UPS - BATTERIES & CHARGER	03E09		
Frigg	QP	16	Power Generation & Distribution	LIGTHING	03E10		
Frigg	QP	16	Power Generation & Distribution	NAVIGATION AIDS & OBST LIGHTS	03E11		

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	QP	16	Power Generation & Distribution	CATHODIC PROTECTION	03E12		
Frigg	QP	16	Power Generation & Distribution	EARTHING OF ELECTRICAL EQUIPM	03E13		
Frigg	QP	16	Power Generation & Distribution	GENERAL CABLE PLANT	03E14		
Frigg	QP	16	Power Generation & Distribution	TRACE HEATING	03E15		
Frigg	QP	16	Power Generation & Distribution	EX EQUIPMENT ELEC-INST-TELEC	03E20		
Frigg	TCP2	16	Power Generation & Distribution	SWITCH GEAR 22/5 5/4 4 KV	05E02	MAIN BREAKERS FOR TCP2 EXTENSI	BREAK EXT
Frigg	TCP2	16	Power Generation & Distribution	SWITCH GEAR 22/5 5/4 4 KV	05E02	CIRCUIT BREAK CAPACIT CBB-A/B	CBB-A/B
Frigg	TCP2	16	Power Generation & Distribution	SWITCH GEAR 22/5 5/4 4 KV	05E02	START BUS FRØY M35	HV-DB-M35
Frigg	TCP2	16	Power Generation & Distribution	SWITCH GEAR 22/5 5/4 4 KV	05E02	24KV ISOLAT BREAKER FRØY M35	HV-PD FRØY
Frigg	TCP2	16	Power Generation & Distribution	SWITCH GEAR 22/5 5/4 4 KV	05E02	5 5KV MAIN SWITCHBOARD M35	HV-PD-M35
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	CAPACITOR BANK	CBB-A
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	CAPACITOR BANK	CBB-B
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	FROY START TRANSFORMER 5,5 KV	ST-01
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	FROY START TRANSFORMER 5,5 KV	ST-02
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	TCP2 COMPRES TRANSFORM 2500KVA	T11 & T12
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	FROY TRANSFORMER 5,5/0,38 KV	T25
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	FROY TRANSFORMER 5,5/0,38 KV	T26
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	FROY TRANSFORMER 5,5/24 KV	T27
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	TCP2 TREAT TRANSFORMER 1000KVA	T4 & T5
Frigg	TCP2	16	Power Generation & Distribution	TRANSFORMERS & CAPACITORS	05E03	FUEL GAS HEAT TRANSFOR 1000KVA	T9 & T10
Frigg	TCP2	16	Power Generation & Distribution	CONTROLDESK MIMIC PANEL	05E04		
Frigg	TCP2	16	Power Generation & Distribution	SWITCH GEAR 380 VAC	05E05	380V EMERGENCY SWITCHBOARD M35	LV-DBEM-M35
Frigg	TCP2	16	Power Generation & Distribution	SWITCH GEAR 380 VAC	05E05	MAIN SWITCHBOARD FRØY M35	LV-DB-M35
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	COMPRES BATTERY SUPP AC SYSTEM	AC SYST C
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	TREATM BATTERY SUPP AC SYSTEM	AC SYST T
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	EAST FRIGG 220V/24V NO BREAK	DB 350
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	110/24V DC DISTRIB PANEL M35	DB-334
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	220V AC NO-BREAK DIS BOARD M35	DB-335
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	EAST FRIGG 220V NO BREAK D B	DB-354
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	EAST FRIGG 380V SUPPLY S BOARD	DB-355
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	COMPRESSION CENTRAL DC SYSTEMS	DC SYST C
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	TREATMENT CENTRAL DC SYSTEMS	DC SYST T
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	BATTERY ISOLATOR BREAKER M35	IB-BB-M35
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	EAST FRIGG SUB-SEA CABINET	SCTC-1
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	EAST FRIGG UPS NO 2	UPS NO 2
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	UPS FRØY M35	UPS-M35
Frigg	TCP2	16	Power Generation & Distribution	UPS AND BATTERIES & CHARGERS	05E06	EAST FRIGG UPS NO 1	UPS-NO 1
Frigg	TCP2	16	Power Generation & Distribution	LIGHTING	05E07	NORMAL LIGHTING FRØY M35	DB 331
Frigg	TCP2	16	Power Generation & Distribution	LIGHTING	05E07	EMERGENCY LIGHTING FRØY M35	DB EM 332
Frigg	TCP2	16	Power Generation & Distribution	LIGHTING	05E07	EF/LF (Z15) NORMAL LIGHTING	DB-351
Frigg	TCP2	16	Power Generation & Distribution	LIGHTING	05E07	EF/LF (Z15) EMERGENCY LIGHTING	DB-352
Frigg	TCP2	16	Power Generation & Distribution	LIGHTING	05E07	230V AC DISTRIBUTION PANEL	LV-DB-335

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	16	Power Generation & Distribution	NAVIGATIONAL AIDS TCP2	05E08		
Frigg	TCP2	16	Power Generation & Distribution	EARTHING PROTECTION	05E12		
Frigg	TCP2	16	Power Generation & Distribution	GENERAL CABLEPLANT	05E13		
Frigg	TCP2	16	Power Generation & Distribution	STAL-LAVAL GENERATORS	05E14	GENERATOR GAS TURBINE A	52G01A
Frigg	TCP2	16	Power Generation & Distribution	STAL-LAVAL GENERATORS	05E14	52G01A ALTERNATOR	52G01A
Frigg	TCP2	16	Power Generation & Distribution	STAL-LAVAL GENERATORS	05E14	GENERATOR GAS TURBINE B	52G01B
Frigg	TCP2	16	Power Generation & Distribution	STAL-LAVAL GENERATORS	05E14	52G01B ALTERNATOR	52G01B
Frigg	TCP2	16	Power Generation & Distribution	EMERGENCY GENERATOR	05E15	EMERGENCY ALTERNATOR	53-G01
Frigg	TCP2	16	Power Generation & Distribution	EMERGENCY GENERATOR	05E15	53-G01 DIESEL ENGINE	53-GD01
Frigg	TCP2	16	Power Generation & Distribution	TRACE HEATING	05E16	TRACE HEATING PANEL TREATMENT	DB311
Frigg	TCP2	16	Power Generation & Distribution	TRACE HEATING	05E16	TRACE HEATING PANEL TREATMENT	DB316
Frigg	TCP2	16	Power Generation & Distribution	EX EQUIPMENT ELEC-INST-TELEC	05E20		
Frigg	TCP2	17	Metering & Laboratory	GAS FISCAL METERING	05P30		
Frigg	TCP2	17	Metering & Laboratory	CONDENSATE-OIL FISCAL METERING	05P32		
Frigg		18	Workshop & Warehouse				
Frigg	TP1	19	HVAC	HVAC	02U02		
Frigg	TP1	19	HVAC	VIBRATION MONITORING	02U31		
Frigg	QP	19	HVAC	HVAC	03U11		
Frigg	QP	19	HVAC	VIBRATION MONITORING	03U31		
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	HEATER INSTRUMENT I/F ROOM EF	EH-CQ20-01
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	HEATER ELEC I/F ROOM EF	EH-CQ20-02
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	HEATER BATT ROOM EF	EH-CQ20-03
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	ELEC CIRC MCC A COMP 22GH EF	FN-CQ20-01
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	SUPPLY VENT FAN MOTOR EF	FN-CQ20-02
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	ELEC CIC EM SW COMP 22H EF	FN-CQ20-02
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	EXTRACT FAN MOTOR EF	FN-CQ20-03
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	ELECT CIRC /MCC A COMP 22GH EF	FN-CQ20-03
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	ELEC CIRC EM SW COMP IH EF	FN-CQ20-04
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	EXTRACT FAN MOTOR EF	FN-CQ20-05
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	EXT FAN BATT ROOM MOTOR EF	FN-CQ20-05
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	ELEC CIRC /MCC B COMP 22H EF	FN-CQ20-05
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	EXTR FAN BATT ROM MOTOR EF	FN-CQ20-06
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	ELEC CIRC EM SW COMP 5E EF	FN-CQ20-06
Frigg	TCP2	19	HVAC	HVAC TCP2T	05U02	SUPPLY FAN MOTOR EF	FN-CQ30-03
Frigg	TCP2	19	HVAC	HVAC TCP2C	05U28		
Frigg	TP1	20	Lifting & Column Equipment	COLUMN CORROSION INHIBITOR	02A02	P21A & B WATER SAMPLING PUMPS	P21 A/B
Frigg	TP1	20	Lifting & Column Equipment	COLUMN CORROSION INHIBITOR	02A02	J-TUBE INHIBITOR UNIT	UD02977
Frigg	TP1	20	Lifting & Column Equipment	PEDESTAL CRANES	02U13	MOLDE CRANE M7	M7
Frigg	TP1	20	Lifting & Column Equipment	PEDESTAL CRANES	02U13	MK-60 M8	M8
Frigg	TP1	20	Lifting & Column Equipment	HAND OPERATED CRANES-HOISTS	02U14	M26 - SBG DERRICK UPPER DECK	M26
Frigg	TP1	20	Lifting & Column Equipment	HAND OPERATED CRANES-HOISTS	02U14	M27A - CERIA HOIST IN C1	M27A
Frigg	TP1	20	Lifting & Column Equipment	HAND OPERATED CRANES-HOISTS	02U14	M27B - CERIA HOIST IN C2	M27B

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TP1	20	Lifting & Column Equipment	HAND OPERATED CRANES-HOISTS	02U14	M29 - CARGO WINCH C1-12,4M	M29
Frigg	TP1	20	Lifting & Column Equipment	HAND OPERATED CRANES-HOISTS	02U14	M31 - CARGO WINCH C1-MAIN DECK	M31
Frigg	TP1	20	Lifting & Column Equipment	HAND OPERATED CRANES-HOISTS	02U14	M32 - CARGO WINCH C2-12,4M	M32
Frigg	TP1	20	Lifting & Column Equipment	HAND OPERATED CRANES-HOISTS	02U14	M34 - CARGO WINCH C2 MAIN DECK	M34
Frigg	TP1	20	Lifting & Column Equipment	SHAFT COOLING SYSTEM	02U15	P23A-BALLAST WATER PUMP	P23A
Frigg	TP1	20	Lifting & Column Equipment	SHAFT COOLING SYSTEM	02U15	P23B-BALLAST WATER PUMP	P23B
Frigg	TP1	20	Lifting & Column Equipment	SHAFT COOLING SYSTEM	02U15	P24A-BALLAST WATER PUMP	P24A
Frigg	TP1	20	Lifting & Column Equipment	SHAFT COOLING SYSTEM	02U15	P24B-BALLAST WATER PUMP	P24B
Frigg	TP1	20	Lifting & Column Equipment	COLUMN 1&2 DEWATERING	02U18	COLUMN 1 DEWATERING PUMP	C1A
Frigg	TP1	20	Lifting & Column Equipment	COLUMN 1&2 DEWATERING	02U18	COLUMN 1 DEWATERING PUMP	C1B
Frigg	TP1	20	Lifting & Column Equipment	COLUMN 1&2 DEWATERING	02U18	COLUMN 2 DEWATERING PUMP	C2A
Frigg	TP1	20	Lifting & Column Equipment	COLUMN 1&2 DEWATERING	02U18	COLUMN 2 DEWATERING PUMP	C2B
Frigg	TP1	20	Lifting & Column Equipment	COLUMN 1&2 DEWATERING	02U18	COL 1&2 DEWATERING OPERATIONS	COL 1&2
Frigg	TP1	20	Lifting & Column Equipment	COLUMN EQUIPMENT	02U19		
Frigg	QP	20	Lifting & Column Equipment	HANDLING & LIFTING APPLIANCES	03U07	MOLDE CRANE M6	M6
Frigg	TCP2	20	Lifting & Column Equipment	COLUMN CHEMICALS	05A10		
Frigg	TCP2	20	Lifting & Column Equipment	PEDESTAL CRANES	05U13	AKER-CRANE	60X01
Frigg	TCP2	20	Lifting & Column Equipment	PEDESTAL CRANES	05U13	MOLDE CRANE CM7	CM7
Frigg	TCP2	20	Lifting & Column Equipment	PEDESTAL CRANES	05U13	MK-60 CM8	CM8
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	COMPRESSOR FOR PERSONNEL HOIST	CC003
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	LEVAHN HOIST 28426 - C5 CM27	CM27
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	LEVAHN HOIST 28068 - C1 CM28	CM28
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	LEVAHN EMERGENCY HOIST-28385 2	CM29
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	COL 3 - PERSONNEL WINCH CM31	CM31
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	LEVAHN EMERGENCY HOIST-28385 1	CM32
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	WINCH & PADEYE ABOVE C1	CM34
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	WINCH & PADEYE ABOVE C3	CM35
Frigg	TCP2	20	Lifting & Column Equipment	HOISTS - WINCHES & LAGS	05U14	WINCH & PADEYE ABOVE C5	CM36
Frigg	TCP2	20	Lifting & Column Equipment	EQUIPMENT LOCATED IN COLUMNS	05U15	COLUMN 1 - BALLAST PUMP&MANFLD	CP30A
Frigg	TCP2	20	Lifting & Column Equipment	EQUIPMENT LOCATED IN COLUMNS	05U15	COLUMN 1 - BALLAST WATER PUMP	CP30B
Frigg	TCP2	20	Lifting & Column Equipment	EQUIPMENT LOCATED IN COLUMNS	05U15	COLUMN 1 - SUMP PUMP & VALVE	CP670
Frigg	TCP2	20	Lifting & Column Equipment	EQUIPMENT LOCATED IN COLUMNS	05U15	COLUMN 1 - CYLIN OVERFLOW PUMP	P1
Frigg	TCP2	20	Lifting & Column Equipment	EQUIPMENT LOCATED IN COLUMNS	05U15	COLUMN 1 - CYLIN OVERFLOW PUMP	P2
Frigg	TP1	21	Fire & Lifesaving Equipment	WASHDOWN SYSTEM	02U06	P33 WASHDOWN PUMP	P33
Frigg	TP1	21	Fire & Lifesaving Equipment	FIRE FIGHTING EQUIPMENTS	02U07	P6A FIREWATER PUMP&DIESEL ENG	P6A
Frigg	TP1	21	Fire & Lifesaving Equipment	FIRE FIGHTING EQUIPMENTS	02U07	P6B FIREWATER PUMP&DIESEL ENG	P6B
Frigg	TP1	21	Fire & Lifesaving Equipment	LIFE BOAT	02U12		
Frigg	QP	21	Fire & Lifesaving Equipment	FIRE FIGHTING EQUIPMENTS	03U03	P1 FIREWATER PUMP & DIESEL ENG	P1
Frigg	QP	21	Fire & Lifesaving Equipment	FIRE FIGHTING EQUIPMENTS	03U03	P5-WASHDOWN PUMP	P5
Frigg	QP	21	Fire & Lifesaving Equipment	LIFE SAVING APPLIANCES	03U08		
Frigg	TCP2	21	Fire & Lifesaving Equipment	WASHDOWN SYSTEM	05U06	WASHDOWN PUMP TCP2C	50P02
Frigg	TCP2	21	Fire & Lifesaving Equipment	FIRE FIGHTING TCP2T-EF-LF-FRØY	05U07	CP6A FIREWATER PUMP & DIESEL	CP6A

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	21	Fire & Lifesaving Equipment	FIRE FIGHTING TCP2T-EF-LF-FRØY	05U07	CP6B FIREWATER PUMP & DIESEL	CP6B
Frigg	TCP2	21	Fire & Lifesaving Equipment	LIFEBOAT, MOB & ESCAPE WAY	05U12		
Frigg	TCP2	21	Fire & Lifesaving Equipment	FIRE FIGHTING TCP2C	05U26	68P01A FIREWATER PUMP SET	68P01A
Frigg	TCP2	21	Fire & Lifesaving Equipment	FIRE FIGHTING TCP2C	05U26	68P01B FIREWATER PUMP SET	68P01B
Frigg	TCP2	21	Fire & Lifesaving Equipment	FIRE FIGHTING TCP2C	05U26	68P01A DIESEL ENG & HYDR SYST	68PD01A
Frigg	TCP2	21	Fire & Lifesaving Equipment	FIRE FIGHTING TCP2C	05U26	68P01B DIESEL ENG & HYDR SYST	68PD01B
Frigg	TCP2	21	Fire & Lifesaving Equipment	FIRE FIGHTING TCP2C	05U26	SUBMERSIBLE FIRE WATER PUMP	CQ027
Frigg	TP1	22	Process Utility	GAS-PIG RECEIVERS M1-M2	02P01	M1-SPHERICAL PIG RECEIVER	M1
Frigg	TP1	22	Process Utility	GAS-PIG RECEIVERS M1-M3	02P01	M2-SPHERICAL PIG RECEIVER	M2
Frigg	TP1	22	Process Utility	LP-HP-VENTS SCRUBBER-STACK	02P13	SP24-LP-VENT STACK	SP24
Frigg	TP1	22	Process Utility	LP-HP-VENTS SCRUBBER-STACK	02P13	SP45 LP-VENTILATION STACK	SP45
Frigg	TP1	22	Process Utility	LP-HP-VENTS SCRUBBER-STACK	02P13	V24-HP VENT SCRUBBER	V24
Frigg	TP1	22	Process Utility	LP-HP-VENTS SCRUBBER-STACK	02P13	V47 COLD VENT KNOCK-OUT DRUM	V47
Frigg	TP1	22	Process Utility	LP-HP-VENTS SCRUBBER-STACK	02P13	V7-LP VENT SCRUBBER	V7
Frigg	TP1	22	Process Utility	NITROGEN COMPR PLANT / BOTTLES	02P18	Q16-NITROGEN GENERATION PLANT	Q16
Frigg	TP1	22	Process Utility	NITROGEN COMPR PLANT / BOTTLES	02P18	Q19-HP NITROGEN COMPRESSOR	Q19
Frigg	TP1	22	Process Utility	SEWAGE & OILY WATER TREATMENT	02U05	P3-WASTE OIL SUMP PUMP	P3
Frigg	TP1	22	Process Utility	SEWAGE & OILY WATER TREATMENT	02U05	Q13-SEWAGE TREATER	Q13
Frigg	TP1	22	Process Utility	TP1-PLANT AIR DISTR PIPING	02U08		
Frigg	TP1	22	Process Utility	HYDRAULIC SYSTEM	02U09	P22A-HYDRAULIC PUMP	P22A
Frigg	TP1	22	Process Utility	HYDRAULIC SYSTEM	02U09	P22B-HYDRAULIC PUMP	P22B
Frigg	TP1	22	Process Utility	DRAIN PIPING	02U20		
Frigg	QP	22	Process Utility	QP COMPR AIR PIPING & NSTRUM	03U05		
Frigg	TCP2	22	Process Utility	FRIGG GAS PIG TRAP	05A01	GAS PIG RECEIVER (DP2)	CM1
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	67B01-LP VENT SCRUBBER	67B01
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	KNOCK OUT DRUM PUMPS	CP615
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	FROY HP FLARE TIP	CQ612
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	CSP24-LP FLARE STACK	CSP24
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	CV226-LT RELIEF SCRUBBER	CV226
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	CV24-HP VENT SCRUBBER	CV24
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	FROY HP FLARE KNOCK OUT DRUM	CV616
Frigg	TCP2	22	Process Utility	LOW & HIGH PRESSURE RELIEF	05P13	CV7-LP VENT SCRUBBER	CV7
Frigg	TCP2	22	Process Utility	SEWAGE & OILY WATER TREATMENT	05U05	CP3-WASTE OIL SUMP PUMP	CP3
Frigg	TCP2	22	Process Utility	SEWAGE & OILY WATER TREATMENT	05U05	SEWAGE TREATER	CQ-13
Frigg	TCP2	22	Process Utility	SEWAGE & OILY WATER TREATMENT	05U05	CQ14-FLOTATION UNIT	CQ-14
Frigg	TCP2	22	Process Utility	SEWAGE & OILY WATER TREATMENT	05U05	CV13-SUMP CAISSON	CV13
Frigg	TCP2	22	Process Utility	SEWAGE & OILY WATER TREATMENT	05U05	CLOSED DRAIN CONDENSATE VESSEL	CV55
Frigg	TCP2	22	Process Utility	COMPRESSED AIR	05U08	57X01T01 AIR RECEIVER COMP	57X01T01
Frigg	TCP2	22	Process Utility	COMPRESSED AIR	05U08	AIR DRYER	CQ21
Frigg	TCP2	22	Process Utility	COMPRESSED AIR	05U08	AIR COMPRESSOR PACKAGE	CQ22A
Frigg	TCP2	22	Process Utility	COMPRESSED AIR	05U08	COMPRESSOR B	CQ22B
Frigg	TCP2	22	Process Utility	COMPRESSED AIR	05U08	COMPRESSOR C	CQ22C

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TCP2	22	Process Utility	HYDRAULIC OIL SYSTEM	05U09	CP22A-HYDRAULIC PUMP	CP22A
Frigg	TCP2	22	Process Utility	HYDRAULIC OIL SYSTEM	05U09	CP22B-HYDRAULIC PUMP	CP22B
Frigg	TCP2	22	Process Utility	HYDRAULIC OIL SYSTEM	05U09	HYDRAULIC UNIT	CQ7
Frigg	TCP2	22	Process Utility	NITROGEN SYSTEM	05U10	ACCUMULATOR STATIONS COMPRESS	COMP-ST1
Frigg	TCP2	22	Process Utility	CLOSED & OPEN DRAINS	05U18	OPEN DRAIN TANK FRØY	CV660
Frigg	TCP2	22	Process Utility	CLOSED & OPEN DRAINS	05U18	CLOSED DRAIN TANK FRØY	CV661
Frigg	TCP2	22	Process Utility	FRESH WATER COOLING	05U21	58E01A1-HEAT EXCHANGER	58E01A1/2/3/4
Frigg	TCP2	22	Process Utility	FRESH WATER COOLING	05U21	58P02A/B-PROC FR WATER TEG PUMP	58-P02A/B
Frigg	TCP2	22	Process Utility	FRESH WATER COOLING	05U21	58P04A-UTILITY FR WAT/TEG PUMP	58P04A/B
Frigg	TCP2	22	Process Utility	FRESH WATER COOLING	05U21	58P05A-FR WAT/TEG DR TANK PUMP	58P05A/B
Frigg	TCP2	22	Process Utility	FRESH WATER COOLING	05U21	58T01-EXPANSION TANK	58T01
Frigg	TCP2	22	Process Utility	FRESH WATER COOLING	05U21	58T02-COOL FR WATER TEG TANK	58T02
Frigg	TCP2	22	Process Utility	MAIN SEA WATER COOLING	05U22	58S01A/B-SEA WATER STRAINER	58S01A/B
Frigg	TCP2	22	Process Utility	MAIN SEA WATER COOLING	05U22	CP37A/B/C SEA WATER PUMP	CP37A/B/C
Frigg	TCP2	22	Process Utility	MAIN SEA WATER COOLING	05U22	FROY GENERATOR COOL WAT PUMP A	CP653A
Frigg	TCP2	22	Process Utility	MAIN SEA WATER COOLING	05U22	FROY GENERATOR COOL WAT PUMP B	CP653B
Frigg	TCP2	22	Process Utility	CLOSED FRESH WATER/TEG DRAIN	05U23	CP224-DRAINAGE TANK PUMP	CP224
Frigg	TCP2	22	Process Utility	CLOSED FRESH WATER/TEG DRAIN	05U23	CV222-METH WATER DRAIN TANK	CV222
Frigg	TCP2	22	Process Utility	HYDRAULIC SYSTEM TCP2C	05U27	56X01-HYDRAULIC POWER UNIT	56X01
Frigg	TCP2	22	Process Utility	DRAIN SYSTEM LF	05U33		
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	CE517A WASTE HEAT RECOVERY	CE517A
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	CE517B WASTE HEAT RECOVERY	CE517B
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	HEATING MEDIUM MAKE-UP PUMPS	CP517
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	CS 517A AIR INTAKE FILTER	CS517A
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	CS 517B AIR INTAKE FILTER	CS517B
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	CV516 HEATING MED MAKEUP TANK	CV516
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	CV517 HEATING MED EXPANS TANK	CV517
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	CV518 SLIPSTREAM FILTER	CV518
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	FN517A COOLING AIR FAN	FN517A
Frigg	TCP2	22	Process Utility	HEATING MEDIUM LF-FRØY	05U34	FN517B COOLING AIR FAN	FN517B
Frigg	TP1	23	Safety & Control System	SAFETY SYSTEMS	02I01		
Frigg	TP1	23	Safety & Control System	INTERFACE ROOM INSTRUMENTATION	02I03		
Frigg	TP1	23	Safety & Control System	DECK DARINAGE SYSTEM	02I04		
Frigg	TP1	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	02I21	PCU/SCU	BAILEY
Frigg	TP1	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	02I21	TP1 PCU-A	TP1 PCU-A
Frigg	TP1	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	02I21	TP1 PCU RIO-A1	TP1 RIO-A1
Frigg	TP1	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	02I21	TP1 SCU	TP1 SCU
Frigg	QP	23	Safety & Control System	SAFETY SYSTEMS	03I01		
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	MCS/OIS/PCU/SCU	BAILEY
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	COMPUTER INTERFACE UNIT CIU	CIU
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	ENGINEERING WORK STATION EWS	EWS
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	PLANT LOOP	FCDA-PL

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	ISS MIMIC/MATRIX	ISS MIM
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	ISS PRINTER	ISS PRNT
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	MCS 10	MCS 10
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	MCS 12	MCS 12
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	OIS 7	OIC 201 SLAVE
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	OIS 9	OIC 202 SLAVE
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	OIC 7 SLAVE	OIC 7 SLAVE
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	OIC 9 SLAVE	OIC 9 SLAVE
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	OIS 201	OIS 201
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	OIS 202	OIS 202
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	PCMS MIMIC	PCMS MIM
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	PCMS PRINTER	PCMS PRNT
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	QP SCU	QP SCU
Frigg	QP	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	03I93	QP PCU-A	QPPCU-A
Frigg	QP	23	Safety & Control System	ENVIRONMENTAL MONITORING EQUIP	03U09		
Frigg	TCP2	23	Safety & Control System	SAFETY SYSTEMS TCP2 TREATMENT	05I01		
Frigg	TCP2	23	Safety & Control System	SYMINEX EQUIPMENT	05I02		
Frigg	TCP2	23	Safety & Control System	INTERFACE ROOM	05I03		
Frigg	TCP2	23	Safety & Control System	SAFETY SYSTEMS TCP2 COMPRES	05I05		
Frigg	TCP2	23	Safety & Control System	ESD SYST TCP2/OPPS SYST FRIGG	05I06		
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	MCS/PCU/SCU	BAILEY
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	EF SERIAL COM UNIT	EF COM
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	EF PCU-A	EF PCU-A
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	EF PCU-B	EF PCU-B
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	LF PCU	LF PCU
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	MCS 08	MCS 08
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	PCU 6	PCU-6
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	EF TIE IN PCU (RTU-M51)	RTU-M51
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	MCS 08 SLAVE	SLAVE 08
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2C PCU-A	TCP2C PCU-A
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TPC2C PCU-B	TCP2C PCU-B
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2C PCU-RIO-A1	TCP2C RIO A1
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2C PCU-RIO-B1	TCP2C RIO-B1
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2C-SCU	TCP2C-SCU
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2T ELEC PCU	TCP2T EL PCU
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2T PCU-A	TCP2T PCU-A
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2T PCU-B	TCP2T PCU-B
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2T PCU-C	TCP2T PCU-C
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2T ELEC PCU RIO-A	TCP2T RIO-C
Frigg	TCP2	23	Safety & Control System	FG CTL&DATA ACQUIS (FCDA)	05I21	TCP2T-SCU	TCP2T-SCU
Frigg	TP1	24	Common Utility	POTABLE AND UTILITY WATER	02U04		
Frigg	TP1	24	Common Utility	CONTAINERS AND TEMP EL EQUIPM	02U16		

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	QP	24	Common Utility	TELEMETRY	03I04		
Frigg	QP	24	Common Utility	SATELLITE OUTSTATION SYSTEM	03T01		
Frigg	QP	24	Common Utility	RADIO SYSTEM	03T02		
Frigg	QP	24	Common Utility	INTERNAL SYSTEM	03T03		
Frigg	QP	24	Common Utility	TELECOM INSTRUMENTS	03T04		
Frigg	QP	24	Common Utility	TELEPHONE	03T05		
Frigg	QP	24	Common Utility	PA & ALARM	03T06		
Frigg	QP	24	Common Utility	DATACOMMUNICATION NETWORK	03T07		
Frigg	QP	24	Common Utility	FRIGG CC LOCAL AREA NETWORK	03T08		
Frigg	QP	24	Common Utility	TOTAL OIL MARINE COMMUNICATION	03T10		
Frigg	QP	24	Common Utility	WATER SYSTEM	03U02	SEWAGE SYSTEM	P6
Frigg	QP	24	Common Utility	WATER SYSTEM	03U02	SOFT WATER GENER	V3 & V4
Frigg	QP	24	Common Utility	GALLEY & LIVING QUARTERS	03U12		
Frigg	QP	24	Common Utility	AVIATION FUEL	03U13	P7A & B-JET FUEL PUMPS	P7 A/B
Frigg	QP	24	Common Utility	AVIATION FUEL	03U13	V8A-FILTER	V 8A
Frigg	QP	24	Common Utility	AVIATION FUEL	03U13	V7A-JET FUEL TANK	V7A
Frigg	QP	24	Common Utility	AVIATION FUEL	03U13	V7B-JET FUEL TANK	V7B
Frigg	QP	24	Common Utility	AVIATION FUEL	03U13	V7C-JET FUEL TANK	V7C
Frigg	QP	24	Common Utility	AVIATION FUEL	03U13	V8-FILTER/WATER SEPARATOR	V8
Frigg	QP	24	Common Utility	CONTAINER & PORTABLE ELEC EQT	03U14		
Frigg	TCP2	24	Common Utility	BATTERIES FOR TELEPHONE	05T01		
Frigg	TCP2	24	Common Utility	POTABLE UTILITY WATER	05U04		
Frigg	TCP2	24	Common Utility	CONTAINERS AND TEMP EL EQUIPM	05U16		
Frigg	TCP2	24	Common Utility	DESALINATED WATER	05U19	FRESH WATER MAKER (PASSIVATED)	55X01A
Frigg	TCP2	24	Common Utility	DESALINATED WATER	05U19	FRESH WATER MAKER (PASSIVATED)	55X01B
Frigg	TCP2	24	Common Utility	DESALINATED WATER	05U19	55Y01-FRESH WATER TANK	55Y01
Frigg	TCP2	24	Common Utility	DESALINATED WATER	05U19		
Frigg	TCP2	24	Common Utility	DESALINATED WATER DISTRIBUTION	05U20	55P01A-FR WATER MAKE UP PUMP	55P01A
Frigg	TCP2	24	Common Utility	DESALINATED WATER DISTRIBUTION	05U20	55P01B-FR WATER MAKE UP PUMP	55P01B
Frigg	TCP2	24	Common Utility	DESALINATED WATER DISTRIBUTION	05U20	55P03-TURBINE WASHING PUMP	55P03
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1->FP - AIR & PILOT LINES	J3
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1->CDP1 - 18" N2 STORAGE	J4
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1->CDP1 - 4 5" AIR STORAGE	J5
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1-SPARE - 32" RISER	R1
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1-SPARE - 32" RISER	R1X
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1-SPARE - 24" RISER	R2
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1-<ALWYN - 24" DRY GAS	R2X
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1-SPARE - 26" RISER	R3
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1-SPARE - 26" RISER	R4
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1->CDP1 - 26" AIR STORAGE	R5
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1->CDP1 - 26" AIR STORAGE	R6
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1->FP - 24" WET GAS LINE	R7

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Frigg	TP1	25	Primary & Secondary Structure	RISERS AND FLOWLINES	02S03	TP1->ST FERGUS - 32" GAS FUKA	R8
Frigg	DP2	25	Primary & Secondary Structure	Jacket Structure & Foundation	04S02		
Frigg	DP2	25	Primary & Secondary Structure	Risers	04S03	DP2-<TCP2 - METHA WATER RISER	J1
Frigg	DP2	25	Primary & Secondary Structure	Risers	04S03	DP2-SPARE - 8 6" RISER	J2
Frigg	DP2	25	Primary & Secondary Structure	Risers	04S03	DP2-SPARE - 26" RISER	R2
Frigg	DP2	25	Primary & Secondary Structure	Risers	04S03	DP2->TCP2 - 26" GAS RISER	R3
Frigg	DP2	25	Primary & Secondary Structure	Main Deck Structure	04S04		
Frigg	DP2	25	Primary & Secondary Structure	Other Deck Structures	04S05		
Frigg	DP2	25	Primary & Secondary Structure	Secondary Structures	04S06		
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->DP2 -4" METHAN WAT LINE	J1
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-<FRØY WHP - 12" OIL LINE	J2
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->DP2&FRØY - CABLES (2+1)	J3
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->EF&LF - CABLES & UMBIL	J4
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->EF&LF - SERVICE & CABLE	J5
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->LF - SERVICE & INJECTION	J6
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-<EF - 10" WET GAS LINE	J7
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->ST FERGUS - 32" GAS FNA	R1
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-SPARE RISER - 32" FNA	R1E
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-<FRØY WHP - 12" GAS LINE	R2
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->OSEBERG - 16" OIL FROST	R2E
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-<DP2 - 26" GAS LINE	R3
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	GAS RISER 26"x1 FROM DP2	R3
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-SPARE - 26" RISER	R3E
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-<LF - 10" WET GAS LINE	R4E
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->FRØY WHP - 16" INJ WATER	R5E
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2-<ODIN - 20" WET GAS LINE	R6E
Frigg	TCP2	25	Primary & Secondary Structure	RISERS AND FLOWLINES	05S03	TCP2->FP - 24" WET GAS LINE	R7E
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY<-TCP2 - SERVICE LINE	J1
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY<-BRIGGVE -	J2
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY<-SKIRNE	J3
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY->BYGGVE & SKIRNE	J4
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY<-WELL 25/2-13	J5
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY->TCP2 - 12" OIL RISER	R1
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY->TCP2 - 12" WET GAS RISER	R2
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY-<TCP2 -16" INJ WAT RISER	R3
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY->BYGGVE & SKIRNE - 16"	R4
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY<-BYGGVE - 14"	R5
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY<-SKIRNE - 14"	R6
Frigg	Frøy	25	Primary & Secondary Structure	Risers & Sea Lines	11S03	FRØY-<TCP2 -2 5" SERVICE RISER	R7
Frigg		26	FCC General Mngt , Safety & Admin				
Heimdal	HMP1	28	HMP1 Process	ESD Hydraulic	08D86	HYDRAULIC ESD POWER UNIT	2UB-801
Heimdal	HMP1	28	HMP1 Process	Wellhead Hydraulic	08D87	6-WELL POWER PACK	2UB-802A

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	28	HMP1 Process	Wellhead Hydraulic	08D87	8-WELL POWER PACK	2UB-802B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	INLET SCRUBBER	2DS-301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	AFTER COOLER	2EC-301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	MAIN COMPRESSOR	2KB 301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	LUB OIL WETTING TROLLEY	2UB 306
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	SEAL OIL RECLAMATION UNIT	2UB-305
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	GAS TURBINE	2YD-301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	CONTROL PANEL - HIMA	HIMA-A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	INLET SCRUBBER	2DS-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	AFTER COOLER	2EC-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	MAIN COMPRESSOR	2KB-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	GAS TURBINE	2YD-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	2YD-301B FUEL GAS SYSTEM	2YD-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	CONTROL PANEL - HIMA	HIMA-B
Heimdal	HMP1	28	HMP1 Process	Piping Valves System P30	08P03		
Heimdal	HMP1	28	HMP1 Process	Piping	08P19		
Heimdal	HMP1	28	HMP1 Process	X-mas trees and Manifold	08P20		
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	2DS 203-FITTINGS	2DS 203
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FREE WATER KNOCK-OUT DRUM	2DS-201
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	LOW TEMPERATURE SEPARATOR	2DS-203
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FWKO GAS/WATER EXCHANGER	2EC-201
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FWKO GAS/LTS GAS EXCHANGER	2EC-202
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FWKO GAS/LTS COND EXCHANGER	2EC-203
Heimdal	HMP1	28	HMP1 Process	Glycol/Condensate Recovery	08P25	GLYCOL CONDENSATE SEPARATOR	2DS-204
Heimdal	HMP1	28	HMP1 Process	Glycol/Condensate Recovery	08P25	LTS CONDENSATE/HOT OIL EXCHANG	2EC-204
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	INLET SCRUBBER A	2DS-205A
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	INLET SCRUBBER B	2DS-205B
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	RECYC COMPRESSORS AFTERCOOLER	2EC-205
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	RECYCLED GAS COMPRESSOR	2KB-201A
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	RECYCLED GAS COMPRESSOR	2KB-201B
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment/Stab	08P27	STABILIZER TOWER	2CA-401
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	TEG CONTACTOR	2CA-402
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	INLET SCRUBBER A	2DS-404A
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	INLET SCRUBBER B	2DS-404B
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	RESIDUAL GAS COMPRESSOR SET A	2KB-401A
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	RESIDUAL GAS COMPRESSOR SET B	2KB-401B
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	LOW PRESSURE BACK-UP SEPARATOR	2DS-401
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP COND/HOT OIL EXCHANGER	2EC-405A
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP COND/HOT OIL EXCHANGER	2EC-405B
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP COND TRIM COOLER	2EC-406
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP CONDENSATE PUMP	2GX-402
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE COOLER	2EC-408

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	28	HMP1 Process	Wellhead Hydraulic	08D87	8-WELL POWER PACK	2UB-802B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	INLET SCRUBBER	2DS-301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	AFTER COOLER	2EC-301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	MAIN COMPRESSOR	2KB 301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	LUB OIL WETTING TROLLEY	2UB 306
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	SEAL OIL RECLAMATION UNIT	2UB-305
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	GAS TURBINE	2YD-301A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor A	08P01	CONTROL PANEL - HIMA	HIMA-A
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	INLET SCRUBBER	2DS-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	AFTER COOLER	2EC-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	MAIN COMPRESSOR	2KB-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	GAS TURBINE	2YD-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	2YD-301B FUEL GAS SYSTEM	2YD-301B
Heimdal	HMP1	28	HMP1 Process	Main Gas Compressor B	08P02	CONTROL PANEL - HIMA	HIMA-B
Heimdal	HMP1	28	HMP1 Process	Piping Valves System P30	08P03		
Heimdal	HMP1	28	HMP1 Process	Piping	08P19		
Heimdal	HMP1	28	HMP1 Process	X-mas trees and Manifold	08P20		
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	2DS 203-FITTINGS	2DS 203
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FREE WATER KNOCK-OUT DRUM	2DS-201
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	LOW TEMPERATURE SEPARATOR	2DS-203
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FWKO GAS/WATER EXCHANGER	2EC-201
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FWKO GAS/LTS GAS EXCHANGER	2EC-202
Heimdal	HMP1	28	HMP1 Process	Gas Treatment	08P22	FWKO GAS/LTS COND EXCHANGER	2EC-203
Heimdal	HMP1	28	HMP1 Process	Glycol/Condensate Recovery	08P25	GLYCOL CONDENSATE SEPARATOR	2DS-204
Heimdal	HMP1	28	HMP1 Process	Glycol/Condensate Recovery	08P25	LTS CONDENSATE/HOT OIL EXCHANG	2EC-204
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	INLET SCRUBBER A	2DS-205A
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	INLET SCRUBBER B	2DS-205B
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	RECYC COMPRESSORS AFTERCOOLER	2EC-205
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	RECYCLED GAS COMPRESSOR	2KB-201A
Heimdal	HMP1	28	HMP1 Process	Recycled Gas Compression	08P26	RECYCLED GAS COMPRESSOR	2KB-201B
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment/Stab	08P27	STABILIZER TOWER	2CA-401
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	TEG CONTACTOR	2CA-402
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	INLET SCRUBBER A	2DS-404A
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	INLET SCRUBBER B	2DS-404B
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	RESIDUAL GAS COMPRESSOR SET A	2KB-401A
Heimdal	HMP1	28	HMP1 Process	Residual Gas Compression	08P28	RESIDUAL GAS COMPRESSOR SET B	2KB-401B
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	LOW PRESSURE BACK-UP SEPARATOR	2DS-401
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP COND/HOT OIL EXCHANGER	2EC-405A
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP COND/HOT OIL EXCHANGER	2EC-405B
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP COND TRIM COOLER	2EC-406
Heimdal	HMP1	28	HMP1 Process	Condensate Treatment Backup Flash	08P29	BACK-UP CONDENSATE PUMP	2GX-402
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE COOLER	2EC-408

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE PIPELINE PUMP SET A	2GX-404A
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE PIPELINE PUMP SET B	2GX-404B
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE BOOSTER PUMP SET A	2GX-405A
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE BOOSTER PUMP SET B	2GX-405B
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE SURGE TANK	2TA-401
Heimdal	HMP1	28	HMP1 Process	Pressure Relief Flare	08P31	FLARE KNOCK OUT DRUM	2DS-171
Heimdal	HMP1	28	HMP1 Process	Pressure Relief Flare	08P31	FLARE	2FB-171
Heimdal	HMP1	28	HMP1 Process	Nozzels for Tanks & vessels	08U60		
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG SURGE TANK	2DA-451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG SURGE TANK	2DA-471
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG CONDENSATE SEPARATOR	2DS 451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG CONDENSATE SEPARATOR	2DS-471
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG REBOILER	2EC-451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG/MEG EXCHANGER	2EC-452
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	LEAN MEG WATER COOLER	2EC-453
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG REBOILER	2EC-471
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG TEG EXCHANGER	2EC-472
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	LEAN TEG WATER COOLER	2EC-473
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG INJECTION PUMP	2GX-451A
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG INJECTION PUMP	2GX-451B
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG BOOSTER PUMP	2GX-453
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG INJECTION PUMP	2GX-471A
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG INJECTION PUMP	2GX-471B
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	RICH MEG FILTER	2IF 451A
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	RICH TEG FILTER	2IF 451B
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG SLOP TANK	2TA-450
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG STORAGE TANK	2TA-451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG STORAGE SLOP TANK	2TA-470
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	SLOP TANK	2TA-521
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	SUMP CAISSON	2TC-521
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	OILY WATER TREATMENT SKID 1	2UB-521-1
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	OILY WATER TREATMENT SKID 2	2UB-521-2
Heimdal	HMP1	29	HMP1 Process Utilities	OPEN AND CLOSED DRAIN	08P44	FLAME ARRESTOR***INHIBITED****	SP30196
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL FURNACE A	2FA-541A
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL FURNACE B	2FA-541B
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL RECIRCULATING PUMP	2GX-541A
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL RECIRCULATING PUMP	2GX-541B
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL RECIRCULATING PUMP	2GX-541C
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	FLAME ARRESTOR***INHIBITED****	SP30193
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	FLAME ARRESTOR***INHIBITED****	SP30197
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	PH STABILIZER STORAGE TANK	2TA-501
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	CORR INHIBIT STORAGE TANK	2TA-855

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	CORR INHIBIT STORAGE TANK	2TA-856
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	EMULSION BREAKER STORAGE TANK	2TA-857
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	CORROSION INH PUMPSKID	2UB510
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL STORAGE TANK	2DA-490
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION TANK	2DA-491
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL STORAGE TANK PUMP SET	2GX-490
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION PUMP	2GX-491A
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION PUMP	2GX-491B
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION PUMP	2GX-491C
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	FLAME ARRESTOR***INHIBITED****	SP30192
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN STORAGE VESSEL	2DS-202
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN AIR COMPRESSOR	2KB-591
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN AIR COMPRESSOR ASSBLY	2KB-591
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN BOOSTER COMPRESSOR	2KB-592
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN GENERATOR	2UB-592
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN RECEIVER PACKAGE	2UB-593
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER PUMP	2GX-742A
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER PUMP	2GX-742B
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER PUMP	2GX-742C
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER BOOSTER PUMP	2GX-905A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING EXPANSION TANK	2DA-501
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER GAS TRAP TANK	2DA-502
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	PLATE HEAT EXCHANGER	2EC-501A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	PLATE HEAT EXCHANGER	2EC-501B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	PLATE HEAT EXCHANGER	2EC-501C
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	UTILITY COOLING WATER PUMP	2GX 507A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	UTILITY COOLING WATER PUMP	2GX 507B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA WATER WINNING PUMP	2GX-501A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA WATER WINNING PUMP	2GX-501B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA WATER WINNING PUMP	2GX-501C
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER PUMP	2GX-502A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER PUMP	2GX-502B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER PUMP	2GX-502C
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER RECOVER TANK	2TA-502
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA OVERBOARD CAISSON	2TC-502
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DA-721/2DA-723 AIR RECEIVERS	2DA-721/2DA-723
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DA-721A/B AIR RECEIVERS	2DA-721A/B
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DA-722/2DA-724 AIR RECEIVERS	2DA-722/2DA-724
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DE-721A/B AIR DRYERS	2DE-721A/B
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR	2KB-721A
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR	2KB-721B
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR (DIESEL DRIVEN)	2KB-722

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR CONTROL PANEL	2RA-721
Heimdal	HMP1	30	HMP1 Utilities	Preserved Drilling Program	08D01		
Heimdal	HMP1	30	HMP1 Utilities	Wells	08D07		
Heimdal	HMP1	30	HMP1 Utilities	Mud	08D80		
Heimdal	HMP1	30	HMP1 Utilities	Cement & Kill	08D81		
Heimdal	HMP1	30	HMP1 Utilities	Bulk Storage	08D82		
Heimdal	HMP1	30	HMP1 Utilities	Drilling Machinery	08D83		
Heimdal	HMP1	30	HMP1 Utilities	Wells Control Equipment	08D85		
Heimdal	HMP1	30	HMP1 Utilities	Shutdown Matrix	08I01		
Heimdal	HMP1	30	HMP1 Utilities	Ex equipment	08I22		
Heimdal	HMP1	30	HMP1 Utilities	Misc Instruments	08I97		
Heimdal	HMP1	30	HMP1 Utilities	Stock & Other	08U00		
Heimdal	HMP1	30	HMP1 Utilities	Vibration Monitoring	08U01		
Heimdal	HMP1	30	HMP1 Utilities	Workshop, Kitchen Miscellaneus	08U10		
Heimdal	HMP1	30	HMP1 Utilities	Chilled Water	08U43	COMPRESSOR A	2KB-651A
Heimdal	HMP1	30	HMP1 Utilities	Chilled Water	08U43	COMPRESSOR B	2KB-651B
Heimdal	HMP1	30	HMP1 Utilities	Chilled Water	08U43	RE-HEATER INSTRUMENT LOOPS	2TV65101
Heimdal	HMP1	30	HMP1 Utilities	Seawage Treatment	08U45	SEWAGE TREATMENT UNIT	2UB-781
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	ELECTRODE BOILER	2BI-651
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER PRIMARY PUMP	2GX-655
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER PRIMARY PUMP	2GX-656
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER SECONDARY PUMP	2GX-657
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER SECONDARY PUMP	2GX-658
Heimdal	HMP1	30	HMP1 Utilities	Ventilation M10	08U54	FAN COIL CCR / TECH ROOM - M10	3BB656A/B
Heimdal	HMP1	30	HMP1 Utilities	Ventilation M20, M30, M40	08U55		
Heimdal	HMP1	30	HMP1 Utilities	Ventilation M50, M70	08U56		
Heimdal	HMP1	30	HMP1 Utilities	General Survey-Thorough Insp	08Y01		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	ELECTRIC CABLES	08E01		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	Start air compressors EL/D	2KB 602 A/B/C/D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGA ALTERNATOR	2PA-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGB ALTERNATOR	2PA-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	CONTROL PANEL	2RA-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	ENGINE FOR START AIR COMPR	2YA 602C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	ENGINE FOR START AIR COMPR	2YA 602D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGA DIESEL ENGINE	2YA-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGB DIESEL ENGINE	2YA-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR1 5,5KV/600V 4MVA	1PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR2 5,5KV/600V 4MVA	1PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR6 5,5KV/380V 1,6MVA	2PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR7 5,5KV(380V 1,6MVA	2PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR8 5,5KV/380V 1,6MVA	2PB-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR9 5,5KV/380V 1,6MVA	2PB-602B

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	5,5KV SWITCHGEAR & SWITCHBOARD	2PD-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	SYNCHRONIZING PANEL	2RA 602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	CONV PANEL FOR SIGNAL TO BCS	2RA 612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	MIMIC PANEL	2RA-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR10 5,5KV/380V 1,6MVA	3PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR11 5,5KV/380V 1MVA	3PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	1PB-601A TRANSF EL CIRCUIT	1PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	1PB-601B TRANSF EL CIRCUIT	1PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	TRANSF TR3 600/380V 800KVA	1PB-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	TRANSF TR4 600/380V 800KVA	1PB-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	TRANSF TR5 380/600V 800KVA	1PB-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	SCR SWITCHBOARD 600V M50	1PD-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M50	1PD-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	EMERG DISTR BOARD 380V M50	1PD-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M70	1PD-614
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M70	1PD-625
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-601A TRANSF EL CIRCUIT	2PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-601B TRANSF EL CIRCUIT	2PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-602A TRANSF EL CIRCUIT	2PB-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-602B TRANSF EL CIRCUIT	2PB-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M20	2PD-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M20	2PD-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	EMERG DISTR BOARD 380V M20	2PD-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	3PB-601A TRANSF EL CIRCUIT	3PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	3PB-601B TRANSF EL CIRCUIT	3PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M10	3PD-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	380V AC INSTRUMENT SUPPLY	2PC-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	110V DC MOTOR SUPPLY	2PC-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	110V DC SWITCHGEAR CONTROL	2PC-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	220V AC EMERGENCY LIGHT	2PC-610
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	NO BREAK DISTR PANEL - 2PE 618	2PE 618
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	BATTERY TRIPPING RELAY PANEL	2RA-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M50	1PE-626
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M50	1PE-627
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M70	1PE-628
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M70	1PE-629
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M20	2PE-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M20	2PE-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M30	2PE-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M40	2PE-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/C00	2PE-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/C00	2PE-607

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M30	2PE-608
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M40	2PE-609
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	FLOODLIGHTING SUPPLY	2PE-610
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/C00	2PE-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M60	2PE-616
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M60	2PE-617
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M20	2PE-621
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M30	2PE-622
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M40	2PE-623
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M60	2PE-624
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M10	3PE-609
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-615
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M50	1PE-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M70	1PE-624
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M20	2PE-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/C00	2PE-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/C00	2PE-613
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M30	2PE-614
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M40	2PE-615
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M60	2PE-625
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M20	2PE-635
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M10	3PE-616
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	ROV SOCKET OUTLET M50	1RV-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	ROV SOCKET OUTLET M50	1RV-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M70	1WX-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M70	1WX-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C01	2WX-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C02/C04	2WX-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C05	2WX-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C07	2WX-604

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C08	2WX-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C11	2WX-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-607
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-608
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-609
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-610
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M30	2WX-613
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M30	2WX-614
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M40	2WX-617
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M40	2WX-618
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M60	2WX-619
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M60	2WX-620
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET FB1	2WX-622
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	SOCKET OUTLET FOR SAUNA	3BG-600
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 1	3WX-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 2	3WX-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 3	3WX-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 4	3WX-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 5	3WX-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 6	3WX-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EARTHING	08E78		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	NAVIGATION AIDS	08E79		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	CABLE TRAYS	08E80	ELECTRIC CABLES	CAB-8E80
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	CABLE TRAYS	08E80	ELECTRIC CABLES	CAB-8S91
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG A	08E81	TGA TURBO-GENERATOR GAS TURB	2PA-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG A	08E81	TGA ALTERNATOR	2PA-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG A	08E81	CONTROL CABINET	2RA601-A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG B	08E82	TGB TURBO-GENERATOR GAS TURB	2PA-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG B	08E82	TGB ALTERNATOR	2PA-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG B	08E82	CONTROL CABINET	2RA601-B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG C	08E83	TGC TURBO-GENERATOR GAS TURB	2PA-601C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG C	08E83	TGC ALTERNATOR	2PA-601C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG C	08E83	CONTROL CABINET	2RA601-C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG D	08E84	TGD ALTERNATOR	2PA-601D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG D	08E84	TGD TURBO-GENERATOR GAS TURB	2PA-601D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG D	08E84	CONTROL CABINET	2RA601-D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG E	08E85	TGE TURBO-GENERATOR GAS TURB	2PA-601E
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG E	08E85	TGE ALTERNATOR	2PA-601E
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG E	08E85	CONTROL CABINET	2RA601-E
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T62

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T63
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T64
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T68
Heimdal	HMP1	32	HMP1 Lifting Appliances	HOISTING EQUIPMENT	08D84		
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	PEDESTAL CRANE NORTH	2-JD-001
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	PEDESTAL CRANE SOUTH	2-JD-002
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	CARGO LIFT	2-JD-004
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	L Q PERSONNEL LIFT	3-JD-701
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	LIFE SAVING APPLIANCES	08S07	MAN OVERBOARD BOAT	2WH-962
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	LIFE SAVING APPLIANCES	08S07	LIFEBOATS AND DAVITS 1 - 6	LB
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	LIFE SAVING APPLIANCES	08S07	Liferafts and Davits 1-6	LR
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	LIFT PUMP	2GA-901A
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	LIFT PUMP	2GA-901B
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	LIFT PUMP	2GA-901C
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	BOOSTER PUMP	2GA-902A
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	BOOSTER PUMP	2GA-902B
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	BOOSTER PUMP	2GA-902C
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIREWATER DIESEL ENGINE	2UA-901A
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIREWATER DIESEL ENGINE	2UA-901B
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIREWATER DIESEL ENGINE	2UA-901C
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIRE WATER RING PRESS & TEMP	8001AC12FW
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIRE WATER TO MAIN RING PRESSU	8023AC12FW4
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIRE WATER TO MAIN RING PRESSU	8024AC12FW4
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER PIPING CONT DEVICES	08S99		
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Metering Units (Spectra-Tek)	08I96		
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Analysers	08I98		
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Condensate & Gas Metering	08P24	JURASSIC COND METERING PACK	2UA-206A/B
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Condensate & Gas Metering	08P24	CONDENSATE METERING PACKAGE	2UA-401
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Condensate & Gas Metering	08P24	COND METER TRACE HEATING PANEL	2UA-401A
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Fuel Gas	08P51	FUEL GAS SCRUBBER	2DS-571
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Fuel Gas	08P51	FUEL GAS/HOT OIL HEAT EXCHANGE	2EC-571
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Fuel Gas	08P51	RESIDUAL FUEL GAS HEATER	2EC-572
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER HYDROPHORE	2DA-761
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	2DE-761A/B PALATABILITY UNIT	2DE-761A/B
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER MAKE UP PUMP	2GX744
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER FEED PUMP	2GX-766A
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER FEED PUMP	2GX-766B
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER FILTER	2IF-761
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER STORAGE TANK A	2TA-761A
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER STORAGE TANK B	2TA-761B
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	DRILLING FRESH WATER TANK	2TA-762
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER MAKER (PASSIVATED)	2UB-761A

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	DOSING UNIT	2UB-762
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	CALORIFIERS M10	3 UB 701
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER TANK	3TA-763A
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER TANK	3TA-763B
Heimdal	HMP1	35	HMP1 Common Utility	Diesel Oil	08U53	DIESEL OIL CENTRIFUGE A	2BN-701A
Heimdal	HMP1	35	HMP1 Common Utility	Diesel Oil	08U53	DIESEL OIL CENTRIFUGE B	2BN-701B
Heimdal	HMP1	35	HMP1 Common Utility	Jet Fuel	08U57	HELIFUEL PACKAGE	3UA-401
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Safety Shutdown System	08I92		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Process Control System (BCS)	08I93		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS ON-LINE SYSTEM IN MTR M20	2TB-201
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS ON-LINE SYSTEM IN MTR M10	3TB-100A
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS HOT-SPARE SYSTEM	3TB-100B
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS ON LINE SYSTEM IN CCR M10	3TI-109A
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Fire and Gas Detect /Halon/CO2	08S91		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Radio	08T60		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Microwaves	08T61		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Telephone	08T62		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Intercom	08T63		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Public Address & Alarms	08T64		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Entertainment	08T65		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Telecom Instruments	08T66		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Telemetry	08T67		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Miscellaneous Communications	08T68		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Meterological Equipment	08T69		
Heimdal	HMP1	37	Primary & Secondary Structure	Structural	08B00		
Heimdal	HMP1	37	Primary & Secondary Structure	Jacket Structure & Foundation	08B02		
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	PIG LAUNCHER	2LC-301
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	CONDENSATE PIG LAUNCHER	2LC-402
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	J-TUBES	HMP1-J-TUBES
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	9,13"CONDENSATE RISER (R1)	HMP1-R1
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	9,13" CONDENSATE RISER (R2) BW	HMP1-R1
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	36" RISER (R3) NOT IN USE	HMP1-R3
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	24" RISER (R4) NOT IN USE	HMP1-R4
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	BRAE - 8" CONDENSATE LINE	R1
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	HMP1->STATPIPE - 32" DRY GAS	R2
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	LIVING QUARTERS MODULE M10	HMP1-M-10
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	GENERATION MODULE M20	HMP1-M-20
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	COMPRESSION MODULE M30	HMP1-M-30
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	SEPARATION MODULE M40	HMP1-M-40
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	MUD MODULE M50	HMP1-M-50
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	WELLHEAD MODULE M60	HMP1-M-60
Heimdal	HMP1	37	Primary & Secondary Structure	Deck Structure	08B05	NORTH CRANE PEDESTAL	2JD-001-PED

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	37	Primary & Secondary Structure	Deck Structure	08B05	SOUTH CRANE PEDESTAL	2JD-002 PED
Heimdal	HMP1	37	Primary & Secondary Structure	Deck Structure	08B05	TELESCOPIC CRANE PEDESTAL	2JD-003 PED
Heimdal		38	HMP1 General Management, Safety & Administration				

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE PIPELINE PUMP SET A	2GX-404A
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE PIPELINE PUMP SET B	2GX-404B
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE BOOSTER PUMP SET A	2GX-405A
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE BOOSTER PUMP SET B	2GX-405B
Heimdal	HMP1	28	HMP1 Process	Condensate Export	08P30	CONDENSATE SURGE TANK	2TA-401
Heimdal	HMP1	28	HMP1 Process	Pressure Relief Flare	08P31	FLARE KNOCK OUT DRUM	2DS-171
Heimdal	HMP1	28	HMP1 Process	Pressure Relief Flare	08P31	FLARE	2FB-171
Heimdal	HMP1	28	HMP1 Process	Nozzels for Tanks & vessels	08U60		
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG SURGE TANK	2DA-451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG SURGE TANK	2DA-471
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG CONDENSATE SEPARATOR	2DS 451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG CONDENSATE SEPARATOR	2DS-471
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG REBOILER	2EC-451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG/MEG EXCHANGER	2EC-452
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	LEAN MEG WATER COOLER	2EC-453
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG REBOILER	2EC-471
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG TEG EXCHANGER	2EC-472
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	LEAN TEG WATER COOLER	2EC-473
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG INJECTION PUMP	2GX-451A
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG INJECTION PUMP	2GX-451B
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG BOOSTER PUMP	2GX-453
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG INJECTION PUMP	2GX-471A
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG INJECTION PUMP	2GX-471B
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	RICH MEG FILTER	2IF 451A
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	RICH TEG FILTER	2IF 451B
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG SLOP TANK	2TA-450
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	MEG STORAGE TANK	2TA-451
Heimdal	HMP1	29	HMP1 Process Utilities	MEG AND TEG SEPARATE AND REGEN	08P32	TEG STORAGE SLOP TANK	2TA-470
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	SLOP TANK	2TA-521
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	SUMP CAISSON	2TC-521
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	OILY WATER TREATMENT SKID 1	2UB-521-1
Heimdal	HMP1	29	HMP1 Process Utilities	OILY WATER TREATMENT	08P33	OILY WATER TREATMENT SKID 2	2UB-521-2
Heimdal	HMP1	29	HMP1 Process Utilities	OPEN AND CLOSED DRAIN	08P44	FLAME ARRESTOR***INHIBITED****	SP30196
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL FURNACE A	2FA-541A
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL FURNACE B	2FA-541B
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL RECIRCULATING PUMP	2GX-541A
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL RECIRCULATING PUMP	2GX-541B
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	HOT OIL RECIRCULATING PUMP	2GX-541C
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	FLAME ARRESTOR***INHIBITED****	SP30193
Heimdal	HMP1	29	HMP1 Process Utilities	HOT OIL	08P52	FLAME ARRESTOR***INHIBITED****	SP30197
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	PH STABILIZER STORAGE TANK	2TA-501
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	CORR INHIBIT STORAGE TANK	2TA-855

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	CORR INHIBIT STORAGE TANK	2TA-856
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	EMULSION BREAKER STORAGE TANK	2TA-857
Heimdal	HMP1	29	HMP1 Process Utilities	CHEMICAL INJECTION	08P54	CORROSION INH PUMPSKID	2UB510
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL STORAGE TANK	2DA-490
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION TANK	2DA-491
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL STORAGE TANK PUMP SET	2GX-490
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION PUMP	2GX-491A
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION PUMP	2GX-491B
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	METHANOL INJECTION PUMP	2GX-491C
Heimdal	HMP1	29	HMP1 Process Utilities	METHANOL INJECTION	08P56	FLAME ARRESTOR***INHIBITED****	SP30192
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN STORAGE VESSEL	2DS-202
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN AIR COMPRESSOR	2KB-591
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN AIR COMPRESSOR ASSBLY	2KB-591
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN BOOSTER COMPRESSOR	2KB-592
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN GENERATOR	2UB-592
Heimdal	HMP1	29	HMP1 Process Utilities	NITROGEN	08P59	NITROGEN RECEIVER PACKAGE	2UB-593
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER PUMP	2GX-742A
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER PUMP	2GX-742B
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER PUMP	2GX-742C
Heimdal	HMP1	29	HMP1 Process Utilities	UTILITY SEA WATER	08U40	UTILITY SEA WATER BOOSTER PUMP	2GX-905A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING EXPANSION TANK	2DA-501
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER GAS TRAP TANK	2DA-502
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	PLATE HEAT EXCHANGER	2EC-501A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	PLATE HEAT EXCHANGER	2EC-501B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	PLATE HEAT EXCHANGER	2EC-501C
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	UTILITY COOLING WATER PUMP	2GX 507A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	UTILITY COOLING WATER PUMP	2GX 507B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA WATER WINNING PUMP	2GX-501A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA WATER WINNING PUMP	2GX-501B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA WATER WINNING PUMP	2GX-501C
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER PUMP	2GX-502A
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER PUMP	2GX-502B
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER PUMP	2GX-502C
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	COOLING WATER RECOVER TANK	2TA-502
Heimdal	HMP1	29	HMP1 Process Utilities	COOLING WATER	08U42	SEA OVERBOARD CAISSON	2TC-502
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DA-721/2DA-723 AIR RECEIVERS	2DA-721/2DA-723
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DA-721A/B AIR RECEIVERS	2DA-721A/B
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DA-722/2DA-724 AIR RECEIVERS	2DA-722/2DA-724
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	2DE-721A/B AIR DRYERS	2DE-721A/B
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR	2KB-721A
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR	2KB-721B
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR (DIESEL DRIVEN)	2KB-722

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	29	HMP1 Process Utilities	INSTRUMENT AND PLANT AIR	08U50	AIR COMPRESSOR CONTROL PANEL	2RA-721
Heimdal	HMP1	30	HMP1 Utilities	Preserved Drilling Program	08D01		
Heimdal	HMP1	30	HMP1 Utilities	Wells	08D07		
Heimdal	HMP1	30	HMP1 Utilities	Mud	08D80		
Heimdal	HMP1	30	HMP1 Utilities	Cement & Kill	08D81		
Heimdal	HMP1	30	HMP1 Utilities	Bulk Storage	08D82		
Heimdal	HMP1	30	HMP1 Utilities	Drilling Machinery	08D83		
Heimdal	HMP1	30	HMP1 Utilities	Wells Control Equipment	08D85		
Heimdal	HMP1	30	HMP1 Utilities	Shutdown Matrix	08I01		
Heimdal	HMP1	30	HMP1 Utilities	Ex equipment	08I22		
Heimdal	HMP1	30	HMP1 Utilities	Misc Instruments	08I97		
Heimdal	HMP1	30	HMP1 Utilities	Stock & Other	08U00		
Heimdal	HMP1	30	HMP1 Utilities	Vibration Monitoring	08U01		
Heimdal	HMP1	30	HMP1 Utilities	Workshop, Kitchen Miscellaneus	08U10		
Heimdal	HMP1	30	HMP1 Utilities	Chilled Water	08U43	COMPRESSOR A	2KB-651A
Heimdal	HMP1	30	HMP1 Utilities	Chilled Water	08U43	COMPRESSOR B	2KB-651B
Heimdal	HMP1	30	HMP1 Utilities	Chilled Water	08U43	RE-HEATER INSTRUMENT LOOPS	2TV65101
Heimdal	HMP1	30	HMP1 Utilities	Seawage Treatment	08U45	SEWAGE TREATMENT UNIT	2UB-781
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	ELECTRODE BOILER	2BI-651
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER PRIMARY PUMP	2GX-655
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER PRIMARY PUMP	2GX-656
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER SECONDARY PUMP	2GX-657
Heimdal	HMP1	30	HMP1 Utilities	Heating Water	08U48	BOILER SECONDARY PUMP	2GX-658
Heimdal	HMP1	30	HMP1 Utilities	Ventilation M10	08U54	FAN COIL CCR / TECH ROOM - M10	3BB656A/B
Heimdal	HMP1	30	HMP1 Utilities	Ventilation M20, M30, M40	08U55		
Heimdal	HMP1	30	HMP1 Utilities	Ventilation M50, M70	08U56		
Heimdal	HMP1	30	HMP1 Utilities	General Survey-Thorough Insp	08Y01		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	ELECTRIC CABLES	08E01		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	Start air compressors EL/D	2KB 602 A/B/C/D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGA ALTERNATOR	2PA-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGB ALTERNATOR	2PA-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	CONTROL PANEL	2RA-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	ENGINE FOR START AIR COMPR	2YA 602C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	ENGINE FOR START AIR COMPR	2YA 602D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGA DIESEL ENGINE	2YA-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EMERGENCY GENERATORS	08E70	DGB DIESEL ENGINE	2YA-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR1 5,5KV/600V 4MVA	1PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR2 5,5KV/600V 4MVA	1PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR6 5,5KV/380V 1,6MVA	2PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR7 5,5KV(380V 1,6MVA	2PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR8 5,5KV/380V 1,6MVA	2PB-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR9 5,5KV/380V 1,6MVA	2PB-602B

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	5,5KV SWITCHGEAR & SWITCHBOARD	2PD-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	SYNCHRONIZING PANEL	2RA 602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	CONV PANEL FOR SIGNAL TO BCS	2RA 612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	MIMIC PANEL	2RA-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR10 5,5KV/380V 1,6MVA	3PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	5,5 KILOVOLTS	08E72	TRANSF TR11 5,5KV/380V 1MVA	3PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	1PB-601A TRANSF EL CIRCUIT	1PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	1PB-601B TRANSF EL CIRCUIT	1PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	TRANSF TR3 600/380V 800KVA	1PB-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	TRANSF TR4 600/380V 800KVA	1PB-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	TRANSF TR5 380/600V 800KVA	1PB-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	SCR SWITCHBOARD 600V M50	1PD-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M50	1PD-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	EMERG DISTR BOARD 380V M50	1PD-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M70	1PD-614
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M70	1PD-625
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-601A TRANSF EL CIRCUIT	2PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-601B TRANSF EL CIRCUIT	2PB-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-602A TRANSF EL CIRCUIT	2PB-602A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	2PB-602B TRANSF EL CIRCUIT	2PB-602B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M20	2PD-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M20	2PD-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	EMERG DISTR BOARD 380V M20	2PD-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	3PB-601A TRANSF EL CIRCUIT	3PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	3PB-601B TRANSF EL CIRCUIT	3PB-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	MCC	08E73	NORMAL DISTR BOARD 380V M10	3PD-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	380V AC INSTRUMENT SUPPLY	2PC-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	110V DC MOTOR SUPPLY	2PC-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	110V DC SWITCHGEAR CONTROL	2PC-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	220V AC EMERGENCY LIGHT	2PC-610
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	NO BREAK DISTR PANEL - 2PE 618	2PE 618
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	UPS	08E74	BATTERY TRIPPING RELAY PANEL	2RA-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M50	1PE-626
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M50	1PE-627
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M70	1PE-628
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M70	1PE-629
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M20	2PE-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M20	2PE-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M30	2PE-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M40	2PE-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/C00	2PE-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/C00	2PE-607

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M30	2PE-608
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M40	2PE-609
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	FLOODLIGHTING SUPPLY	2PE-610
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/C00	2PE-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M60	2PE-616
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M60	2PE-617
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M20	2PE-621
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M30	2PE-622
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M40	2PE-623
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M60	2PE-624
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	EMERG LIGHTING SUPPLY/M10	3PE-609
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	LIGHTING	08E75	NORMAL LIGHTING SUPPLY/M10	3PE-615
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M50	1PE-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M70	1PE-624
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M20	2PE-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/C00	2PE-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/C00	2PE-613
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M30	2PE-614
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M40	2PE-615
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M60	2PE-625
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M20	2PE-635
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TRACE HEATING	08E76	TRACE HEATING SUPPLY/M10	3PE-616
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	ROV SOCKET OUTLET M50	1RV-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	ROV SOCKET OUTLET M50	1RV-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M50	1WX-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M70	1WX-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M70	1WX-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C01	2WX-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C02/C04	2WX-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C05	2WX-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C07	2WX-604

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C08	2WX-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET C11	2WX-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-607
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-608
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-609
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-610
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-611
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M20	2WX-612
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M30	2WX-613
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M30	2WX-614
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M40	2WX-617
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M40	2WX-618
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M60	2WX-619
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M60	2WX-620
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET FB1	2WX-622
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	SOCKET OUTLET FOR SAUNA	3BG-600
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 1	3WX-601
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 2	3WX-602
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 3	3WX-603
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 4	3WX-604
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 5	3WX-605
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	WELDING SOCKETS	08E77	WELDING SOCKET M10 LEVEL 6	3WX-606
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EARTHING	08E78		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	NAVIGATION AIDS	08E79		
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	CABLE TRAYS	08E80	ELECTRIC CABLES	CAB-8E80
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	CABLE TRAYS	08E80	ELECTRIC CABLES	CAB-8S91
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG A	08E81	TGA TURBO-GENERATOR GAS TURB	2PA-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG A	08E81	TGA ALTERNATOR	2PA-601A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG A	08E81	CONTROL CABINET	2RA601-A
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG B	08E82	TGB TURBO-GENERATOR GAS TURB	2PA-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG B	08E82	TGB ALTERNATOR	2PA-601B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG B	08E82	CONTROL CABINET	2RA601-B
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG C	08E83	TGC TURBO-GENERATOR GAS TURB	2PA-601C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG C	08E83	TGC ALTERNATOR	2PA-601C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG C	08E83	CONTROL CABINET	2RA601-C
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG D	08E84	TGD ALTERNATOR	2PA-601D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG D	08E84	TGD TURBO-GENERATOR GAS TURB	2PA-601D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG D	08E84	CONTROL CABINET	2RA601-D
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG E	08E85	TGE TURBO-GENERATOR GAS TURB	2PA-601E
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG E	08E85	TGE ALTERNATOR	2PA-601E
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	TURBOGENERATORS TBG E	08E85	CONTROL CABINET	2RA601-E
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T62

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T63
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T64
Heimdal	HMP1	31	HMP1 Electrical Power Generation & Distribution	EL CABLES 8T62/8T63/8T64/8T68	08T01	ELECTRIC CABLES	CAB-8T68
Heimdal	HMP1	32	HMP1 Lifting Appliances	HOISTING EQUIPMENT	08D84		
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	PEDESTAL CRANE NORTH	2-JD-001
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	PEDESTAL CRANE SOUTH	2-JD-002
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	CARGO LIFT	2-JD-004
Heimdal	HMP1	32	HMP1 Lifting Appliances	LIFTING	08U06	L Q PERSONNEL LIFT	3-JD-701
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	LIFE SAVING APPLIANCES	08S07	MAN OVERBOARD BOAT	2WH-962
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	LIFE SAVING APPLIANCES	08S07	LIFEBOATS AND DAVITS 1 - 6	LB
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	LIFE SAVING APPLIANCES	08S07	Liferafts and Davits 1-6	LR
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	LIFT PUMP	2GA-901A
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	LIFT PUMP	2GA-901B
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	LIFT PUMP	2GA-901C
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	BOOSTER PUMP	2GA-902A
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	BOOSTER PUMP	2GA-902B
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	BOOSTER PUMP	2GA-902C
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIREWATER DIESEL ENGINE	2UA-901A
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIREWATER DIESEL ENGINE	2UA-901B
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIREWATER DIESEL ENGINE	2UA-901C
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIRE WATER RING PRESS & TEMP	8001AC12FW
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIRE WATER TO MAIN RING PRESSU	8023AC12FW4
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER & FIREFIGHTING EQPT	08S90	FIRE WATER TO MAIN RING PRESSU	8024AC12FW4
Heimdal	HMP1	33	HMP1 Fi-Fi and Life Saving Appliances	FIRE WATER PIPING CONT DEVICES	08S99		
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Metering Units (Spectra-Tek)	08I96		
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Analysers	08I98		
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Condensate & Gas Metering	08P24	JURASSIC COND METERING PACK	2UA-206A/B
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Condensate & Gas Metering	08P24	CONDENSATE METERING PACKAGE	2UA-401
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Condensate & Gas Metering	08P24	COND METER TRACE HEATING PANEL	2UA-401A
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Fuel Gas	08P51	FUEL GAS SCRUBBER	2DS-571
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Fuel Gas	08P51	FUEL GAS/HOT OIL HEAT EXCHANGE	2EC-571
Heimdal	HMP1	34	HMP1 Metering Sampling & Laboratory	Fuel Gas	08P51	RESIDUAL FUEL GAS HEATER	2EC-572
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER HYDROPHORE	2DA-761
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	2DE-761A/B PALATABILITY UNIT	2DE-761A/B
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER MAKE UP PUMP	2GX744
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER FEED PUMP	2GX-766A
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER FEED PUMP	2GX-766B
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER FILTER	2IF-761
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER STORAGE TANK A	2TA-761A
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER STORAGE TANK B	2TA-761B
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	DRILLING FRESH WATER TANK	2TA-762
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	FRESH WATER MAKER (PASSIVATED)	2UB-761A

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	DOSING UNIT	2UB-762
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	CALORIFIERS M10	3 UB 701
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER TANK	3TA-763A
Heimdal	HMP1	35	HMP1 Common Utility	Fresh and Potable Water	08U46	POTABLE WATER TANK	3TA-763B
Heimdal	HMP1	35	HMP1 Common Utility	Diesel Oil	08U53	DIESEL OIL CENTRIFUGE A	2BN-701A
Heimdal	HMP1	35	HMP1 Common Utility	Diesel Oil	08U53	DIESEL OIL CENTRIFUGE B	2BN-701B
Heimdal	HMP1	35	HMP1 Common Utility	Jet Fuel	08U57	HELIFUEL PACKAGE	3UA-401
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Safety Shutdown System	08I92		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Process Control System (BCS)	08I93		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS ON-LINE SYSTEM IN MTR M20	2TB-201
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS ON-LINE SYSTEM IN MTR M10	3TB-100A
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS HOT-SPARE SYSTEM	3TB-100B
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Supervisory System (SUPS)	08I94	SUPS ON LINE SYSTEM IN CCR M10	3TI-109A
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Fire and Gas Detect /Halon/CO2	08S91		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Radio	08T60		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Microwaves	08T61		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Telephone	08T62		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Intercom	08T63		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Public Address & Alarms	08T64		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Entertainment	08T65		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Telecom Instruments	08T66		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Telemetry	08T67		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Miscellaneous Communications	08T68		
Heimdal	HMP1	36	HMP1 Control Function and Telecom	Meterological Equipment	08T69		
Heimdal	HMP1	37	Primary & Secondary Structure	Structural	08B00		
Heimdal	HMP1	37	Primary & Secondary Structure	Jacket Structure & Foundation	08B02		
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	PIG LAUNCHER	2LC-301
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	CONDENSATE PIG LAUNCHER	2LC-402
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	J-TUBES	HMP1-J-TUBES
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	9,13"CONDENSATE RISER (R1)	HMP1-R1
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	9,13" CONDENSATE RISER (R2) BW	HMP1-R1
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	36" RISER (R3) NOT IN USE	HMP1-R3
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	24" RISER (R4) NOT IN USE	HMP1-R4
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	BRAE - 8" CONDENSATE LINE	R1
Heimdal	HMP1	37	Primary & Secondary Structure	Pig Launcher, Riser & Pipeline	08B03	HMP1->STATPIPE - 32" DRY GAS	R2
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	LIVING QUARTERS MODULE M10	HMP1-M-10
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	GENERATION MODULE M20	HMP1-M-20
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	COMPRESSION MODULE M30	HMP1-M-30
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	SEPARATION MODULE M40	HMP1-M-40
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	MUD MODULE M50	HMP1-M-50
Heimdal	HMP1	37	Primary & Secondary Structure	Modules	08B04	WELLHEAD MODULE M60	HMP1-M-60
Heimdal	HMP1	37	Primary & Secondary Structure	Deck Structure	08B05	NORTH CRANE PEDESTAL	2JD-001-PED

Field	Platform	MF no	Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Heimdal	HMP1	37	Primary & Secondary Structure	Deck Structure	08B05	SOUTH CRANE PEDESTAL	2JD-002 PED
Heimdal	HMP1	37	Primary & Secondary Structure	Deck Structure	08B05	TELESCOPIC CRANE PEDESTAL	2JD-003 PED
Heimdal		38	HMP1 General Management, Safety & Administration				

Frigg & Heimdal - Future Operations

Main Functions

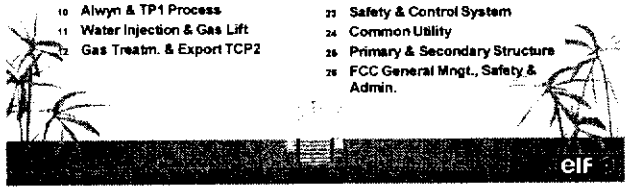
Main Functions:

- Why?
- What are they?

Frigg & Heimdal - Future Operations

List of Main Functions - Frigg

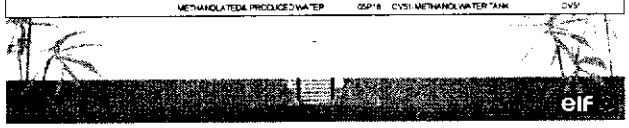
1. Frøy WHP Process
2. Frøy WHP Others
3. Frøy M35 gas/oil
4. LF Subsea and Topside Gas/Oil Proc.
5. TCP2 Oil Export
6. EF Subsea and Inlet
7. DP2 Platform Process
8. DP2 Platform Other
9. DP2 Inlet
10. Alwyn & TP1 Process
11. Water Injection & Gas Lift
12. Gas Treatm. & Export TCP2
13. Frøy & LF Gas Compression
14. Condensate & Reinj. Water TCP2
15. Fuel Gas CC
16. Power Generation & Distribution
17. Metering & Laboratory
18. Workshop & Warehouse
19. HVAC
20. Lifting & Column Equipment
21. Fire & Lifesaving Equipment
22. Process Utility
23. Safety & Control System
24. Common Utility
25. Primary & Secondary Structure
26. FCC General Mngt., Safety & Admin.



Frigg & Heimdal - Future Operations

Condensate & Reinj. Water TCP2

Main Function	OPTIMIS System Description	Sys No	Main Equipment	Tag No
Condensate & Reinj. Water TCP2	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RECYCLE PUMP	CP15A
	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RECYCLE PUMP	CP15B
	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RETURN PUMP	CP3A
	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE RETURN PUMP	CP3B
	FRIGG & EF CONDENSATE	05P11	SLOPS OIL PUMP	CP9A
	FRIGG & EF CONDENSATE	05P11	SLOPS OIL PUMP	CP9B
	FRIGG & EF CONDENSATE	05P11	FRIGG CONDENSATE SURGE TANK	CV3
	FRIGG & EF CONDENSATE	05P11	CONDENSATE RECYCLE TANK	CV33
	FRIGG & EF CONDENSATE	05P11	CONDENSATE STORAGE TANK	CV38
	FRIGG & EF CONDENSATE	05P11	OIL SKIMMER	CV5
	METHANOLATED& PRODUCED WATER	35P15	CP222A METHANOLWATER INJ PUMP	CP222A
	METHANOLATED& PRODUCED WATER	35P15	CP222B METHANOLWATER INJ PUMP	CP222B
	METHANOLATED& PRODUCED WATER	35P15	CP227 METHWATER INJ COND PUMP	CP227
	METHANOLATED& PRODUCED WATER	35P15	CP229 METHWATER INJ W PUMP	CP229
	METHANOLATED& PRODUCED WATER	35P15	CV220 METHANOLWATER FLASH DR	CV220
	METHANOLATED& PRODUCED WATER	35P15	CV225A & CP225A CHEMICAL INJ	CV225A
	METHANOLATED& PRODUCED WATER	05P18	CV225B & CP225B CHEMICAL INJ	CV225B
	METHANOLATED& PRODUCED WATER	05P18	CV48 METHANOLWATER FILTER	CV48
	METHANOLATED& PRODUCED WATER	05P18	CV49 METHANOLWATER FILTER	CV49
	METHANOLATED& PRODUCED WATER	05P18	CV50 METHANOLWATER FILTER	CV50
	METHANOLATED& PRODUCED WATER	05P18	CV51 METHANOLWATER TANK	CV51



Frigg & Heimdal - Future Operations

Process Utility - Frigg

Main Function	OPTIMIS System Description	Sys No
Process Utility	GAS PIG RECEIVER M-MEX	02P01
	LP-HP-VENTE SCRUBBER-STACK	03P13
	NITROGEN COMPR PLANT / BOTTLES	03P10
	SEWAGE & OILY WATER TREATMENT	03U05
	TP1-PLANT AIR DISTR PIPING	03U08
	HYDRAULIC SYSTEM	03U09
	DRAIN PIPING	02U20
	OP COMPR AIR PIPING & MSTRUM	02U05
	FRIGG GAS PIG TRAP	05A01
	LOW & HIGH PRESSURE RELIEF	05P13
	SEWAGE & OILY WATER TREATMENT	05U05
	COMPRESSED AIR	05U08
	HYDRAULIC OIL SYSTEM	05U09
	NITROGEN SYSTEM	05U10
	CLOSED & OPEN DRAINS	05U18
	FRESH WATER COOLING	05U21
	MAIN SEA WATER COOLING	05U22
	CLOSED FRESH WATER/TEG DRAIN	05U23
	HYDRAULIC SYSTEM TCP2C	05U27
	DRAIN SYSTEM LP	05U33
	HEATING MEDIUM LP-FRGY	05U34

elf

Frigg & Heimdal - Future Operations

Common Utility - Frigg

Main Function	OPTIMIS System Description	Sys No
Common Utility	POTABLE AND UTILITY WATER	02U04
	CONTAINERS AND TEMP EL EQUIPM	02U16
	TELEMETRY	03I04
	SATELLITE OUTSTATION SYSTEM	03T01
	RADIO SYSTEM	03T02
	INTERNAL SYSTEM	03T03
	TELECOM INSTRUMENTS	03T04
	TELEPHONE	03T05
	PA & ALARM	03T06
	DATACOMMUNICATION NETWORK	03T07
	FRIGG CC LOCAL AREA NETWORK	03T08
	TOTAL OIL MARINE COMMUNICATION	03T10
	WATER SYSTEM	03U02
	GALLEY & LIVING QUARTERS	03U12
	AVIATION FUEL	03U13
	CONTAINER & PORTABLE ELEC EQT	03U14
	BATTERIES FOR TELEPHONE	05T01
	POTABLE UTILITY WATER	05U04
	CONTAINERS AND TEMP EL EQUIPM	05U16
	DESALINATED WATER	05U19
	DESALINATED WATER DISTRIBUTION	05U20

elf

Frigg & Heimdal - Future Operations

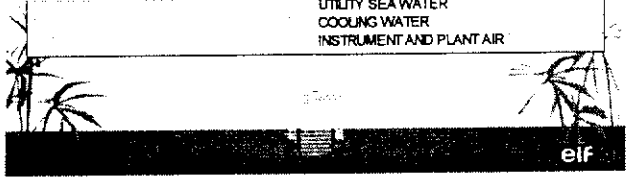
List of Main Functions - Heimdal

28 HMP1 Process
29 HMP1 Process Utilities
30 HMP1 Utilities
31 HMP1 Electrical Power Generation & Distribution
32 HMP1 Lifting Appliances
33 HMP1 Fi-Fi and Life Saving Appliances
34 HMP1 Metering Sampling & Laboratory
35 HMP1 Common Utility
36 HMP1 Control Function and Telecom
37 Primary & Secondary Structure
38 HMP1 General Management, Safety & Administration

elf

Frigg & Heimdal - Future Operations
Process Utilities - Heimdal

Main Function	OPTIMIS System Description
HMPT Process Utilities	MEG AND TEG SEPARATE AND REGEN
	OILY WATER TREATMENT
	OPEN AND CLOSED DRAIN
	HOT OIL
	CHEMICAL INJECTION
	METHANOL INJECTION
	NITROGEN
	UTILITY SEA WATER
	COOLING WATER
	INSTRUMENT AND PLANT AIR



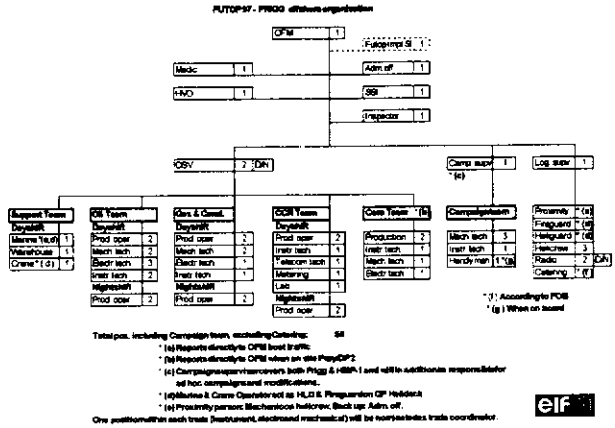
Frigg & Heimdal - Future Operations
Utilities - Heimdal

Main Function	OPTIMIS System Description	Sys No
HMPT Utilities	Preserved Drilling Program	08D01
	Wells	08D07
	Mud	08D80
	Cement & Kill	08D81
	Bulk Storage	08D82
	Drilling Machinery	08D83
	Wells Control Equipment	08D85
	Shutdown Matrix	08I01
	Ex. equipment	08I22
	Misc. Instruments	08I97
	Stock & Other	08U00
	Vibration Monitoring	08U01
	Workshop, Kitchen Miscellaneous	08U10
	Chilled Water	08U43
	Seawage Treatment	08U45
	Heating Water	08U48
	Ventilation M10	08U54
	Ventilation M20, M30, M40	08U55
	Ventilation M50, M70	08U56

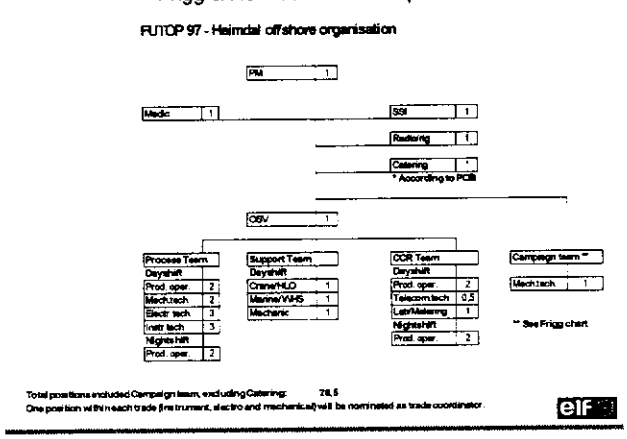
Frigg & Heimdal - Future Operations
Common Utilities - Heimdal

Main Function	OPTIMIS System Description	Sys No
HMPT Common Utility	Fresh and Potable Water	08U46
	Diesel Oil	08U53

Frigg & Heimdal - Future Operations



Frigg & Heimdal - Future Operations

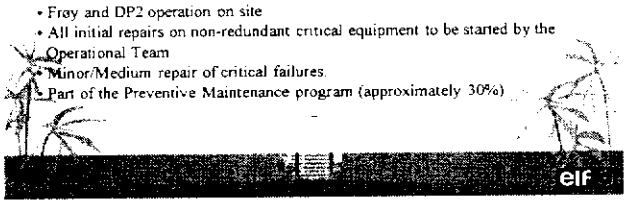


Frigg & Heimdal - Future Operations

Responsibilities in offshore organisation

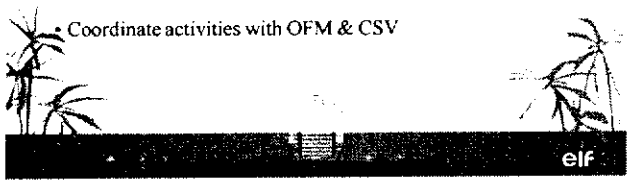
Operational team:

- Process, control and monitoring
- Operational activities for all four trades including production
- "1st degree maintenance" (will be included as operational activities in the future)
- Trouble shooting
- Prioritisation of repair
- Frøy and DP2 operation on site
- All initial repairs on non-redundant critical equipment to be started by the Operational Team
- Minor/Medium repair of critical failures
- Part of the Preventive Maintenance program (approximately 30%)



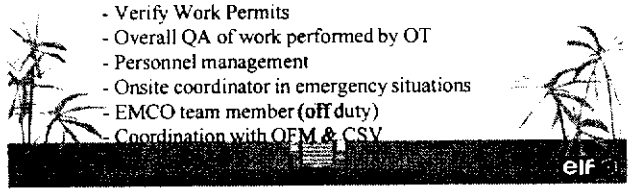
Frigg & Heimdal - Future Operations
Responsibilities in offshore organisation

OSV
- Responsible for the work undertaken by the Operational team with respect to safety, quality, environment, working environment, production regularity and cost of operation/maintenance (defined as a work programme).
- Maximize oil production & meet gas nomination
- Coordinate activities with OFM & CSV



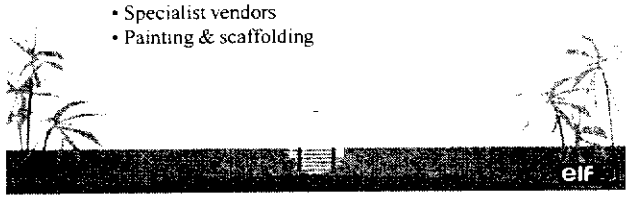
Frigg & Heimdal - Future Operations
Responsibilities in offshore organisation

- OSV is particularly responsible for:
- Operational Responsibility for all Main Functions
- Production Responsibilities (OFM overall prod. resp.)
- Overall planning of work done by OT
- Resource allocation
- Professional competence in OT
- Resp. for "Operational Handbook"
- Verify Work Permits
- Overall QA of work performed by OT
- Personnel management
- Onsite coordinator in emergency situations
- EMCO team member (**off** duty)
- Coordination with OFM & CSV



Frigg & Heimdal - Future Operations
Responsibilities in offshore organisation

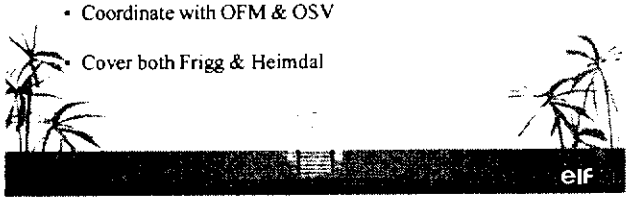
Campaign Team:
- Medium/Major repair of critical failures
- Most repair of non critical equipment
- Preventive maintenance (approximately 70%)
- Ad-hoc campaigns (external contractors)
- Modifications
- Specialist vendors
- Painting & scaffolding



Frigg & Heimdal - Future Operations
Responsibilities in offshore organisation

CSV

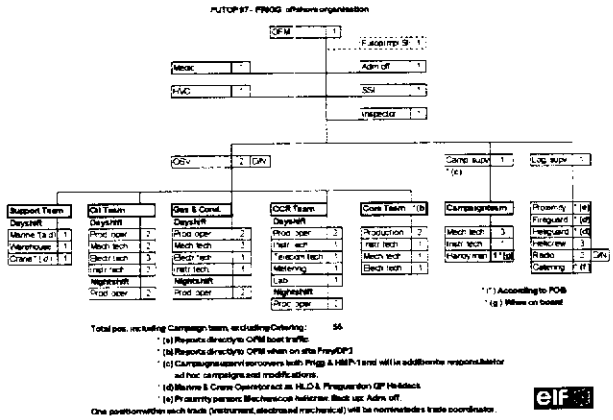
- Responsible for the work undertaken by the Campaign team with respect to safety, quality, environment, working environment and cost of maintenance (defined as a work programme).
- Coordinate with OFM & OSV
- Cover both Frigg & Heimdal



Frigg & Heimdal - Future Operations
Responsibilities in offshore organisation

- CSV is particularly responsible for:
- Overall planning of work (incl. onshore planning)
- Resource allocation
- Professional competence in Campaign Team
- QA of work performed by Campaign Team
- Personnel management
- Coordination with OFM & OSV

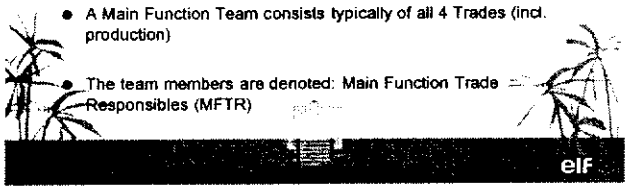
Frigg & Heimdal - Future Operations



Frigg & Heimdal - Future Operations
Responsibilities in Offshore Organisation

Main Function Teams:

- A Main Function Team is commonly (collectively) responsible on behalf of the OSV for the functionality of a given set of Main Functions
- A Main Function Team consists typically of all 4 Trades (incl. production)
- The team members are denoted: Main Function Trade Responsibles (MFTR)



Frigg & Heimdal - Future Operations
Main Function Team Responsibilities

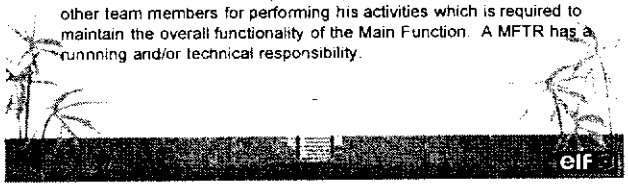
Oil. team	Gas & Condensate team	Core team	Support team
Frøy MS gas / oil	LF Subsea and inlet gas / oil	FRØY WHP process	Workshop & Warehouse
TCP2 Oil export	FF Subsea and inlet	FRØY WHP others	Lifting & Column equipment
FRØY & LF gas compression	DP2 inlet	DP2 Platform process	
Fuel gas CC	Water injection & gas lift	DP2 Platform others	
Power generation & Distribution	Gas treatment & Export TCP2	Alwyn & TP1 Process	
Lifting & Column Equipment	Condensate & reinjected water TCP2	Common Utility	
Process Utility	HVAC	Primary & Secondary Structure	
Safety & Control system	Fire & Lifesaving appliances		

CCR Team
Metering & Laboratory
Safety & Control system
Common Utility

Frigg & Heimdal - Future Operations
Responsibilities in Offshore Organisation

Main Function Trade Responsible (MFTR):

- Each Main Function has 3-4 MFTRs - one for each trade - who "owns" the Main Function.
- A Main Function Trade Responsible (MFTR) is responsible towards the other team members for performing his activities which is required to maintain the overall functionality of the Main Function. A MFTR has a running and/or technical responsibility.

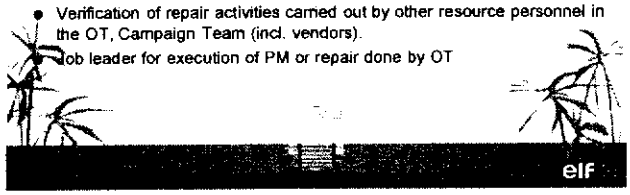


Frigg & Heimdal - Future Operations

Responsibilities in Offshore Organisation

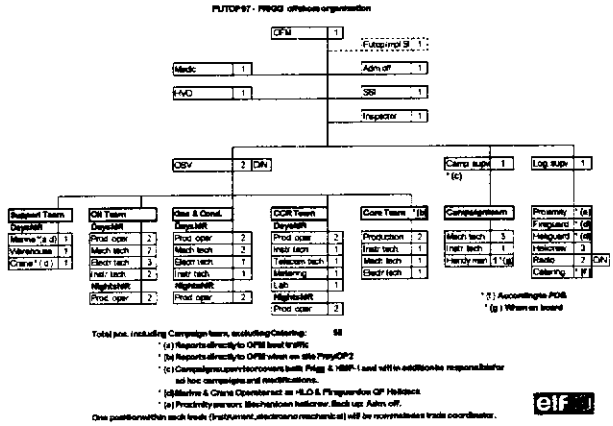
Typical activities of a Main Function Trade Responsible:

- Running of Main Function
- Execution of daily walk-arounds (skriverunder)
- Execution of 1st degree maintenance and PM (part of the PM program)
- Execution of repair of critical failures (as Job Leader and/or as general resource
- Verification of repair activities carried out by other resource personnel in the OT, Campaign Team (incl. vendors).
- Job leader for execution of PM or repair done by OT



elf

Frigg & Heimdal - Future Operations



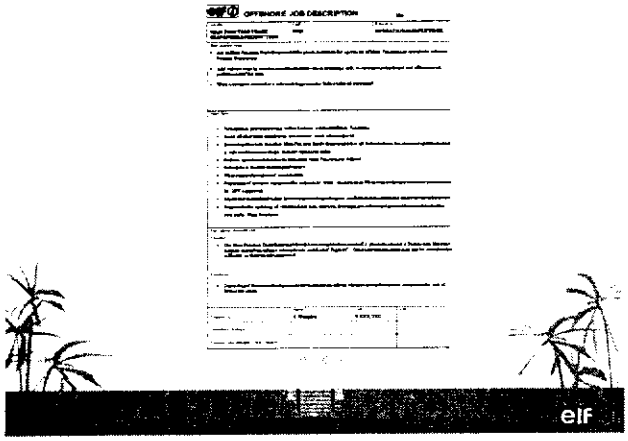
elf

MATRIX for Function Responsible per position in Operational team FRIGG AREA

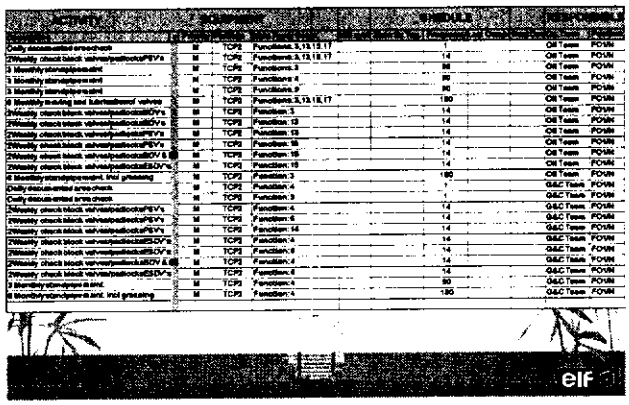
TEAM	Position / Main function	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Oil Team	FO 1 / Day			X										X		X		X								
Oil Team	FO 1 / Night			X										X		X		X								
Oil Team	FO 2 / Day				X							1						X			X		X	1	1	1
Oil Team	FO 2 / Night				X													X			X		X	1	1	1
Oil Team	Mechanic 1		X		X										X		X	X								
Oil Team	Mechanic 2			X		X				1	1	2	2		2					X	X		X			1
Oil Team	El Tech 1																X	X								
Oil Team	El Tech 2		X	X	X	X				X	1	X	X	X	X	X									1	1
Oil Team	E Tech 3																				X		X	X		
Oil Team	Inst Tech 1		X		1						1			X		X	2				2		X	1	1	1
Oil Team	Inst Tech 2				X												X				X			X		
Gas & Cond. team	FO 1 / Day			X		X									X					X						
Gas & Cond. team	FO 1 / Night			X		X									X					X						
Gas & Cond. team	FO 2 / Day									X		X	X									X				
Gas & Cond. team	FO 2 / Night									X		X	X									X				
Gas & Cond. team	Mechanic 1		X		X					X		X	X		X					X						
Gas & Cond. team	Mechanic 2																				X		X			
Gas & Cond. team	E Tech 1																				X	Z	X	Z		
Gas & Cond. team	Inst Tech 1																				X		X			
Support Team	Marine																		X							
Support Team	Warehouse																		X							
Support Team	Crane operator																				X					
Core team	OTL 1																									
Core team	Deputy OTL																								Y	Y
Core team	Mechanic 1																								Y	Y
Core team	E Tech 1																								X	X
Core team	Inst Tech 1																								X	X
CCR team	CCR operator 1 / Day																	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 1 / Night																	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 2 / Day																	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 2 / Night																	X	X	X	X	X	X	X	X	X
CCR team	Instrument																							X		
CCR team	Inspection tech																								X	
CCR team	Laborant																	X								
CCR team	Metering																	X								

NOTES:
* = Deputy core team member
** = El Tech 1 on Oil Team to be trad Trade Coordinator for Electrician Trade.
A= Trade responsible
1 = Deputy trade responsible for Core Team
2 = Deputy trade responsible for Back up Core team

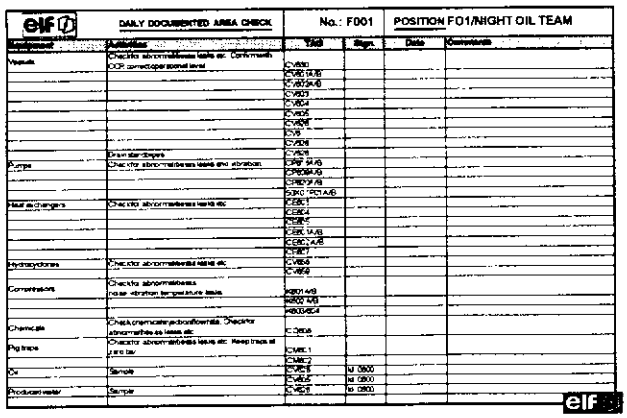
elf



Frigg & Heimdal - Future Operations

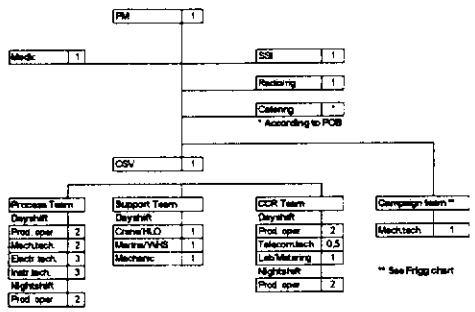


Frigg & Heimdal - Future Operations



Frigg & Heimdal - Future Operations

FUTOP 97 - Heimdal offshore organisation



Total positions included Campaign team, excluding Catering: 26.5

One position within each trade (instrument, electro and mechanical) will be nominated as trade coordinator.

elf

elf

Frigg & Heimdal - Future Operations
Main Function Team Responsibilities

Process Team	Support Team
HMP1 Process	HMP1 Lifting appliances
HMP1 Process Utility	HMP 1 Fi - Fi and life saving appliances
HMP1 Utilities	HMP 1 Common Utility
HMP1 Electrical Power generation & Distrubution	
HMP 1 Primary & Secondary Structure	

CCR Team *(1)
HMP 1 Sampling, Metering & Laboratory
HMP 1 Control Function & Telecom.

elf

Frigg & Heimdal - Future Operations

MATRIX for Function Responsible per position in Operational team HEIMDAL

TEAM	Position / Main function	28	29	30	31	32	33	34	35	36	37
Process team	FO 1 / Day	X									
Process team	FO 1 / Night	X									
Process team	FO 2 / Day		X	X	X			X			
Process team	FO 2 / Night		X	X	X			X			
Process team	Mechanic 1	X						X			X
Process team	Mechanic 2		X	X	X						
Process team	El. Tech. 1				X			X		X	
Process team	El. Tech. 2			X							
Process team	El. Tech. 3	X	X			X	X		X		
Process team	Inst. Tech. 1	X						X		X	
Process team	Inst. Tech. 2		X	X	X						
Process team	Inst. Tech. 3					X	X		X		
Support team	Crane operator					X			X		
Support team	Warehouse / Marine								X		
Support team	Mechanic						X				
CCR team	CCR operator 1 / Day	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 1 / Night	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 2 / Day	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 2 / Night	X	X	X	X	X	X	X	X	X	X
CCR team	Telecom. tech. 1									X	
CCR team	Metering							X			
CCR team	Laborant							X			

NOTES:
Xs Trade responsible

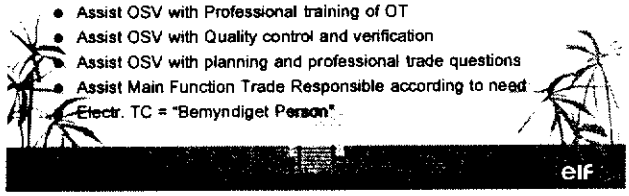
elf

Frigg & Heimdal - Future Operations
Responsibilities in Offshore Organisation

Trade coordinators (typical tasks): Act as MFTR

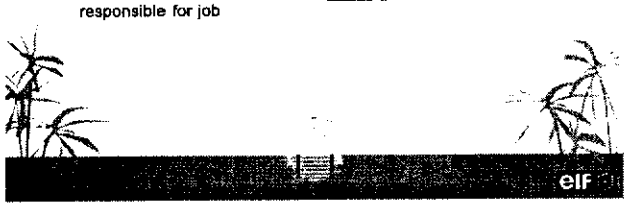
Further, as TC:

- Act as general technical resource person
- Responsible for relevant certificate files
- Responsible for check lists and other technical trade documentation
- Assist OSV with Professional training of OT
- Assist OSV with Quality control and verification
- Assist OSV with planning and professional trade questions
- Assist Main Function Trade Responsible according to need
- Electr. TC = "Bemyndiget Person"



Frigg & Heimdal - Future Operations
Job Leader Role

- For Operational Team: Typical Job Leader = MFTR
- For Campaign Team: Typical Job Leader = Appointed by CSV
- For Campaign Team jobs, the relevant MFTR (from OT) performs verification of job prior to take over equipment.
- General: Job Leader to be like "Project Leader" - i.e. total responsible for job

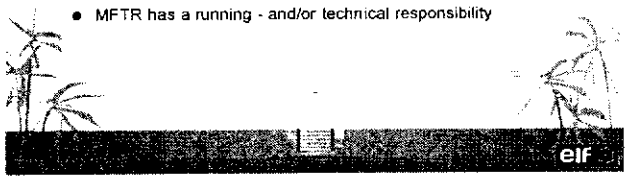


Frigg & Heimdal - Future Operations
New Titles - Offshore Organisation

- Operational Supervisor (OSV)
- Campaign Supervisor (CSV)
- Trade Coordinator (TC)
- Main Function Trade Responsible (MFTR)

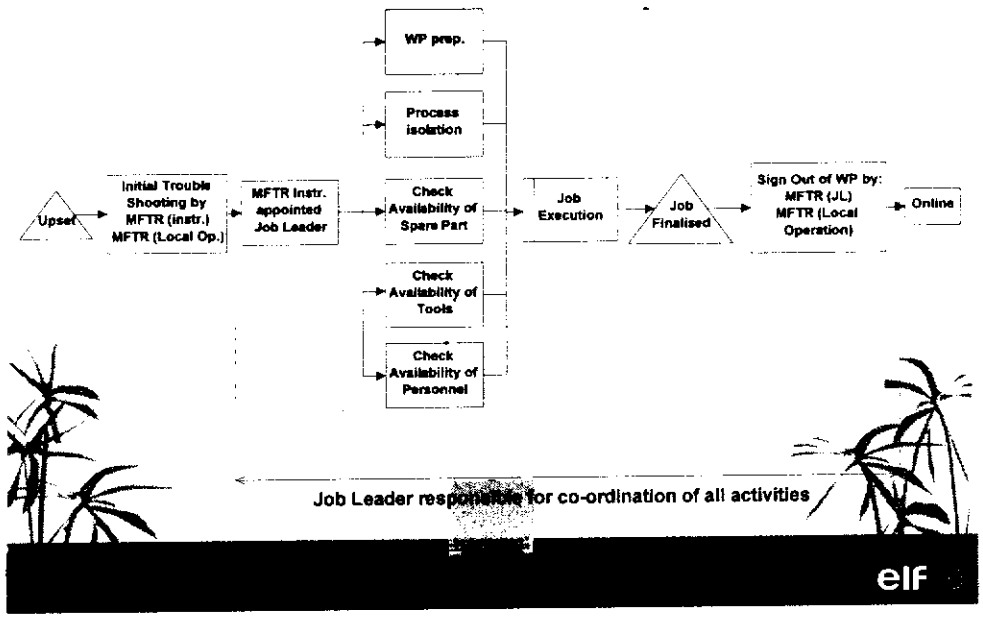
Notes:

- The TC is also MFTR
- MFTR has a running - and/or technical responsibility



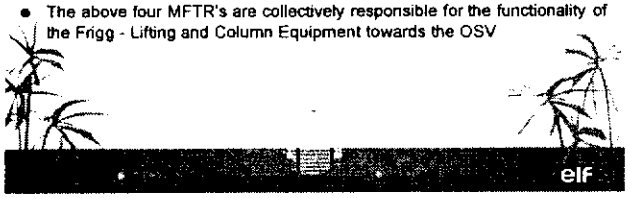
Frigg & Heimdal - Future Operations

Job Leader Role



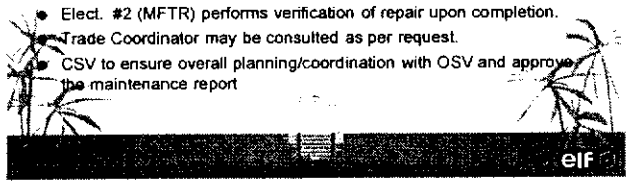
Frigg & Heimdal - Future Operations
Example 1/2

- Main Function: 20 Lifting and Column Equipment
  - Crane Driver from Support Team is MFTR with running responsibility
  - Mech. #2 from Oil Team is MFTR with mech. technical responsibility
  - Elect. #2 from Oil Team is MFTR with el. technical responsibility
  - Instr. #2 from Oil Team is MFTR with instr. technical responsibility
- The above four MFTR's are collectively responsible for the functionality of the Frigg - Lifting and Column Equipment towards the OSV



Frigg & Heimdal - Future Operations
Example 2/2

- Repair of Sleeve Ring on Crane on TP1 (no electrical contact)
- Elect. #2 from Oil Team (MFTR) is responsible for immediate trouble shooting.
- Job transferred to FCT for execution of repair.
- OSV to prioritise the job and verify the WP.
- Crane Driver (MFTR with resp. for local operation) accepts start of work
- Elect. #2 (MFTR) performs verification of repair upon completion.
- Trade Coordinator may be consulted as per request.
- CSV to ensure overall planning/coordination with OSV and approve the maintenance report



Frigg & Heimdal - Future Operations
Operational Responsibility - Main Principles

- Definition of OR remain the same
- OSV is OR for most systems with the exception of systems traditionally under the LSV (Frigg)
- CTL is OR for all systems on DP2 and Frøy WHP
- Minor adjustments such as Radio station, Radar, Telecom might occur

Frigg & Heimdal - Future Operations

Responsibilities and work principles

March 1997

		Signature	Date:
Prepared by:	E. Østby, M. S. Lothe, R. Hansen		15.03.97
Verified by:	P. Rosenthal, C. Hansen		15.3.97
Approved by:	G. Syslak		15/3/97

Table of Content

0 Introduction and Purpose of Document

This document specifies the responsibilities and work principles for the Field Operation Division (FOD) with main emphasis on the offshore operations of the Frigg and Heimdal fields. Main purpose of the document is to describe and clarify the *changes* of the new operations with respect to the roles of the onshore and offshore line organisation, position responsibilities, and general working principles for the offshore organisation and the interactions with the onshore organisation. Together with the "Production and Maintenance Principles for Frigg and Heimdal", Rev. 0, March 1997, the document summarises the most important results and changes to the organisation developed by the FutOp-project.

Section 1 describes the mission of the FOD organisation and main business process lines under the responsibility of FOD. Further, the section summarises the main FutOp-project implications on the FOD operations.

Section 2 outlines the responsibility of the onshore FOD departments. (It should be notices that the onshore organisation has not yet been settled.) The organisation as presented in this document is a starting point for discussions that will be completed by the end of the March 1997.

Section 3 describes the management principles for the new offshore organisation, principles for co-operation in multi-skilled teams, delegation of responsibility and finally responsibilities of the individual positions in the new operational team.

Section 4 outlines the basic working principles, including principles for budgeting and economical accountability, work planning routines, documentation and administration systems, work permit handling routines, performance indicators, and verification and control routines.

Elf aims at running the operations with an optimal regularity of the oil and gas production in order to increase the profit margins, while still maintaining and improving the safety level. We shall run the operations efficiently with a steady aim at minimising cost and improve the quality of our work processes on all levels of the organisation. Through;

- delegation of responsibility and authority "down the lines"; and from onshore to offshore
- definition of clear responsibility for all positions
- multi-skilled operational teams with clear responsibility for the technical condition and the operation of defined facilities
- better prioritisation of production lines and work tasks based on criticality for production loss and safety aspects
- improved planning, preparation and execution of major work tasks organised through campaign work

we have established a new basis for further improvement of our operations.

In the future we will have more focus on the core business and the internal work processes. Our personnel is the main asset in the process for continuous improvement, and we believe the new working principles and delegation of responsibility will improve the learning curve and motivate people to work for our common future as recognised oil and gas producer in Norway.

1 FOD Organisation

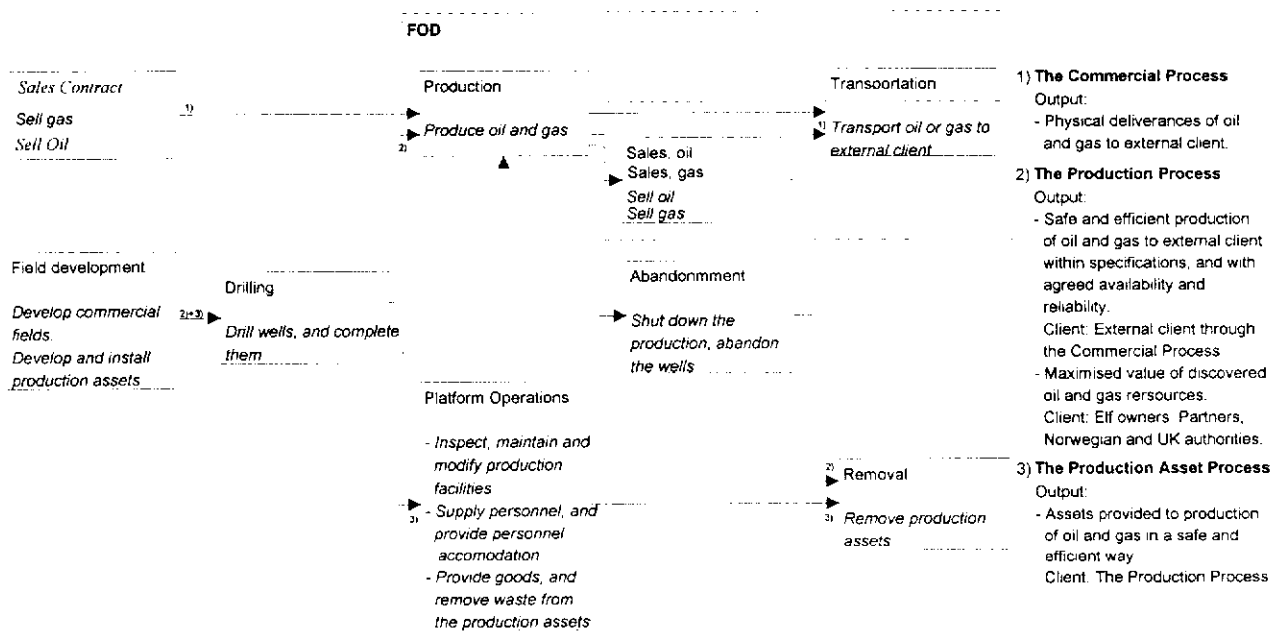
1.1 FOD mission

The Fields Operation Division (FOD) is the operational entity in Elf Norge with the responsibility for the production of hydrocarbons (oil and gas) from the Elf Norge operated fields. The division is also responsible for manning and operating the offshore installations on the Frigg, Frøy and Heimdal fields of the North Sea.

FOD's main mission is:
To run the offshore operations with an optimal regularity of the oil and gas production, and with a steady aim of increasing the profit margin , i.e. minimising OPEX and maximising income, while maintaining and improving the safety level.

The FOD role in the "operated" work process of Elf Norge is shown below:

Production of Oil & Gas - Work Process Model



In accordance with the work-process above, FOD's main objectives are:

- To maximise the profitable oil production and maintain the gas production at the desired production regularity reflecting the balance between cost of shutdown and cost of production availability.
- To minimise all kinds of losses in connection with the production. Losses can in this respect be safety losses such as accidents, incidents, oil spill, etc., or production losses, or efficiency losses such as waste, logistic losses and so on.
- Through a safe and efficient production of the remaining reserves, to prolong the economical life of our installations as much as possible, and at the same time demonstrate competitiveness. This will improve the possibility for new operated business to Elf Norge.

1.2 Main FutOp project implications on the FOD organisation

The following main results and principles have been concluded by FutOp so far:

- Income from oil production dominates gas production, consequently gas production availability will be less important in the future due to lower quantities, linepack and subsequent substitution possibilities.
- Therefore, we shall evaluate the urgency and, thus, the priority of maintenance activities. In principle, only shutdown of the Frøy oil production, and to some extent Heimdal, shall result in immediate repair of equipment to resume production. All other repair shall be performed in an organised and planned manner to avoid upsets to the daily operational tasks and already planned maintenance activities, ref. "Production and Maintenance Principles for Frigg and Heimdal".
- The preventive maintenance can be reduced with about 40% without affecting the safety standard or necessary production availability.
- Planning and execution of major preventive and corrective maintenance tasks in campaigns will, together with less disturbance in general from fewer "rush jobs", increase the efficiency by an estimated 15% compared with the present situation.
- The estimated efficiency gain will be obtained by improved routines and systems for planning of work to ensure right quality to the right time from all parties involved, (e.g. logistics, vendors, purchase, maintenance teams and management supervision).
- We shall speed up the decision making process and ensure accountability for Work Programs, operability and quality of work by fewer organisational levels offshore and delegation of authority "down the line".
- We have established multi-functional offshore teams consisting of personnel from different trades, working together with one common goal of maintaining the required operability of the platform systems.
- The Frigg and Heimdal offshore organisation is organised in two types of teams; Operational and Campaign Teams. The Operational Teams are responsible for the daily operational activities required to maintain production and safety for personnel and the environment. Most of the remaining work, particular that which is not required on daily basis and can be planned and performed in a structured manner shall be performed by the Campaign Team to ensure optimum use of resources available and thereby minimising operating cost.
- Delegation of authority and the multi-skilled team concept change the need for supervision. Previous offshore trade supervisory functions shall be handled by the dedicated teams which are collectively responsible for the functionality of defined operational functions. Urgent repairs and part of the PM activities shall be planned and executed by nominated Job Leaders in the Operational Team. This implies that all personnel will be Job leaders for some jobs, while assisting colleagues on others. Hopefully, this shall improve the learning curve and give better motivation for the personnel
- More administration, planning and preparation work shall be transferred onshore as far as possible and when found convenient.
- The onshore organisation is considered as a competence and support base for planning of operations and preparation of campaigns, technical advise, trouble shooting, resources to smoothen logistics as well as a "memory" for past experience and future use of to-days technical experience.

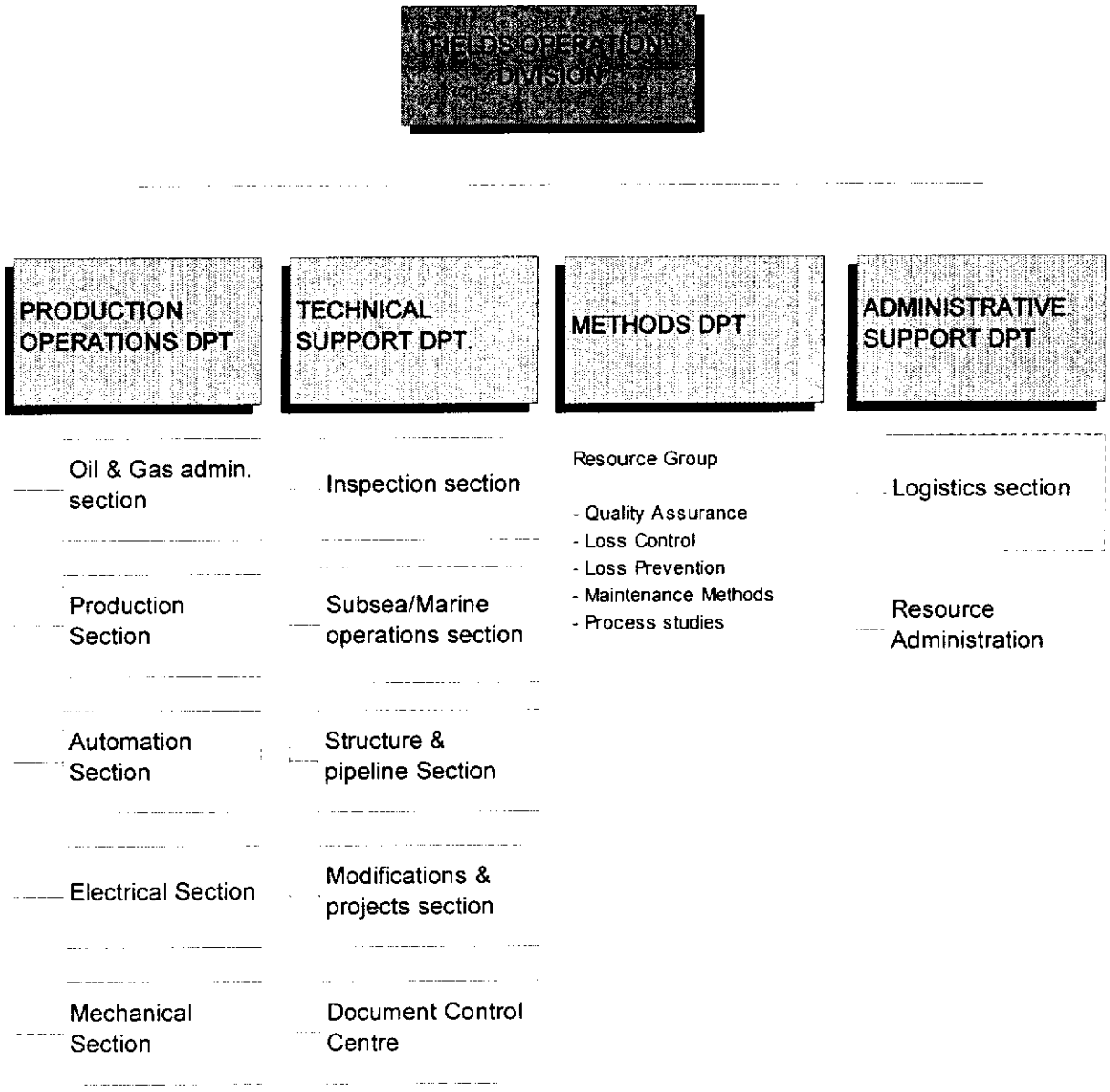
All in all, this means
LESS WORK WHICH SHALL BE BETTER ORGANISED, PLANNED AND COORDINATED IN AN ORGANISATION USING THE BEST OF EVERYONE FOR THE BENEFIT OF ALL.

2 FOD Onshore Organisation

The FOD onshore organisations roles are :

- Preparation, budgeting/pricing and follow-up of Production Plans and Work Programs with respect to progress, execution, cost and quality.
- Preparation of major jobs and modification work.
- Professional assistance and support.
- Logistic support
- Verification of Work Programs, engineering projects and work performance (technically, administrative, organisational and safety) according to defined requirements.
- Preparation of systems and programs for continuous improvement of the field operations.
- Follow up of performance indicators
- Professional competence, development, motivation and working environment for all personnel

The following organisation chart for the FOD onshore organisation is valid per 1.3.97. Note that the FOD onshore organisation is for the moment subject revisions and will be completed by end March 1997.



In the following, the main responsibilities of the onshore operations are summarised according to the operations per 1. March 1997. There will be organisational changes as indicated above, but this will not affect the overall principles for the delegation of responsibility and co-operation between the offshore and onshore operations.

2.1 Production Operation Department (POD)

POD is responsible for preparation and follow-up of production plans and work programs. They shall ensure that the offshore assets are supported according to the frame conditions defined by FOD management. POD's "main client" is the offshore organisation.

POD shall work for meeting our business objectives, within the given frame conditions such as:

- Compliance with regulations, as well as internal and external requirements
- Production profiles and contractual obligations
- Discharge permits
- Event reporting, with corresponding follow-up of actions
- Technical and psycho-social working environment requirements
- etc...

This applies for all entities in FOD, not only POD.

POD manages the oil and gas administration and the trade competence; including production, mechanical, electrical and automation. All trade professionals in the Operational Teams are employed in POD. Personnel working offshore report through the offshore line organisations, see following chapters.

The OFM carries the operational responsibility for the oil and gas production, and the offshore organisation is thus responsible for planning and execution of the daily offshore operations. POD's sections onshore shall support the offshore operations with expertise, knowledge and personnel resources according to their immediate and long term needs. During daily work they shall assist the operations of the fields. In particular, the onshore trade sections shall assist with evaluation of technical issues, prioritisation, trouble-shooting, verification and with planning and co-ordination of repair and modification work. This include back-up during trouble shooting, ordering and forwarding materials, contact with vendors on technical issues and practicalities in connection with vendor assistance.

The Production Sections shall be in close contact with the OFM (PM), Operational Supervisor (OSV) and Central Control Room operators as liaison in connection with gas nomination and production planning. They will offer support on technical issues, process studies, co-ordination with partners and follow-up of production plans.

The "trade sections" in POD have a responsibility for following the technical performance for the equipment, including a verification responsibility. The Section Heads in POD can advise if a job should be transferred to the campaign team. If a campaign job, the relevant POD Section Head decide if the job should be prepared and followed by POD onshore, or transferred to TSD. Required onshore verification of campaign jobs at is always the responsibility of POD.

The onshore trade sections will also in the future have the responsibility for training and recruitment of competent personnel. The Production Sections in POD are responsible for the Frigg and Heimdal simulators.

2.2 Technical Support Department (TSD)

TSD is responsible for support to technical trades and operations that are not immediately crucial to the day-to-day operation of the fields. The Campaign team will be organised under TSD. The campaign maintenance will be planned and prepared onshore. Platform modifications requiring multi-skilled teams will be accomplished as campaigns.

Currently, TSD's responsibility also comprise inspection of topside equipment and maintenance of primary and secondary support structures, subsea facilities and pipelines. (This function is proposed transferred to Methods Department, but no decision has been made yet.)

The department is responsible for the FOD work planning function. (Prepare and co-ordinate campaign schedules, etc.)

TSD is responsible for subsea intervention and marine operations. Further, the department will continue to maintain the Platform Weight Database and manage the Document Control Centre (DCC). The DCC carries the responsibility for document control and act as FOD management's Document Control delegate.

2.3 Methods Department (MD)

MD shall be responsible for continuous improvement of the operations, look for and learn from best practices from other professional that we can compare with. The main object for the department is to look for better and more efficient ways to operate and maintain our assets at a minimum cost without jeopardising expectations, legislation or internal requirements.

MD is established as a support function for development of Elf Norge's operational philosophy, technical and administrative support systems and methods in order to improve our operations. The MD shall assist in developing FOD's operational QA systems, and is FOD's resource group regarding Loss Control, Loss Prevention (Risk Analysis and Safety Engineering) and operational methods.

The entity shall function as facilitator for the implementation of the Continuous Improvement work, hereunder be responsible for the administration and co-ordination of the Red-OPEX projects, development and implementation of Performance Indicators.

The department is responsible for maintaining methods and the continuous update of OPTIMIS.

2.4 Administrative Support Department (ASD)

ASD is responsible for administration of personnel logistics and for assisting in personnel administrative matters. This includes schedules for personnel, etc.

ASD is also responsible for air-logistics, accommodation for personnel, catering functions, etc.

General personnel administration includes personnel competence planning, training schedules, crew-change routines and co-ordination of administrative services received from other Elf entities. ASD is responsible for the follow-up of the FOD offshore Emergency Organisation which includes training of personnel, maintaining training logs and manning of the ordinary crew with competent personnel for possible emergency action.

2.5 The FUTOP Project

FOD deputy manager is delegated the responsibility for ensuring that the implementation of FUTOP is progressing correctly in the various entities on- and offshore.

The FUTOP implementation superintendents and engineer will report directly to him.

3 FOD Offshore Operations

3.1 Principles for management of the new offshore organisation

The new offshore organisation shall focus on the core activity which is to maintain the optimal production in a safe and cost-efficient manner. This will be achieved by:

- Fewer hierarchical levels in the organisation.
- Clear delegation of authority to all levels of the organisation, and measurement of work performance to ensure continuous improvement.
- Operation through multi-skilled teams with responsibility for defined operational functions
- Improved planning of daily work, better prioritisation of critical work tasks and planning of maintenance work.
- Use of campaign teams for non-critical repairs and major parts of the PM program.
- Implementation of an improved operational management system; improved communication lines, more efficient logging and reporting.
- Transfer of as much administrative work as possible to the onshore organisation.
- Support given from onshore organisation according to needs defined by the offshore operations.
- Recognition for achievements and open, constructive dialog for improvements
- Efficient use of competence planning, motivation of the teams and a good working environment.

The basic idea behind delegation of authority and defined work tasks is that the staff will become more motivated to carry out their work more efficiently and with better quality. This requires a clear description of the expected areas of responsibility and corresponding delegation of authority. It is expected that delegation of responsibility will reduce the need for reporting, co-ordination and vertical communication , consequently, the entire operation will be more efficient with focus on the total quality and the ability to run the platform safely with optimal production regularity and at reduced cost.

The offshore organisation is authorised to modify priorities for offshore work within the approved Work-Program. The principle is that the offshore personnel shall relate to the offshore management to get decisions regarding prioritising of work and how work shall be split between operational team activities and campaign work.

3.2 Organisation charts

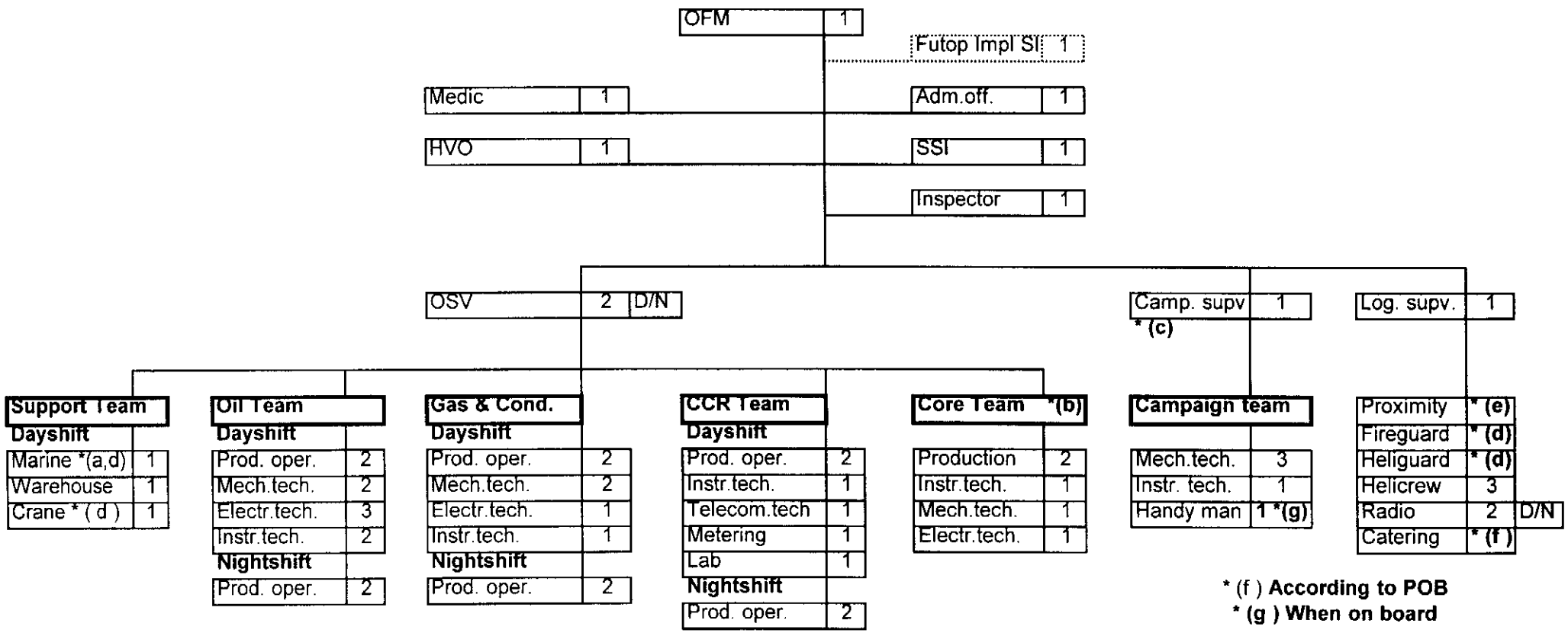
An organigram for the future offshore organisation is shown in the figures on the following two pages.

As shown in the organisation charts the new organisations will consist of the following teams:

- Operational Team (OT)
- Campaign Team (CT)
- Logistics (Frigg only)

which report to the Offshore Field Manager (Frigg)/Platform Manager (Heimdal).

FUTOP 97 - FRIGG offshore organisation



Total pos. including Campaign team, excluding Catering: 55

*** (a) Reports directly to OFM boat traffic**

*** (b) Reports directly to OFM when on site Frøy/DP2**

*** (c) Campaign supervisor covers both Frigg & HMP-1 and will in addition be responsible for ad hoc campaigns and modifications.**

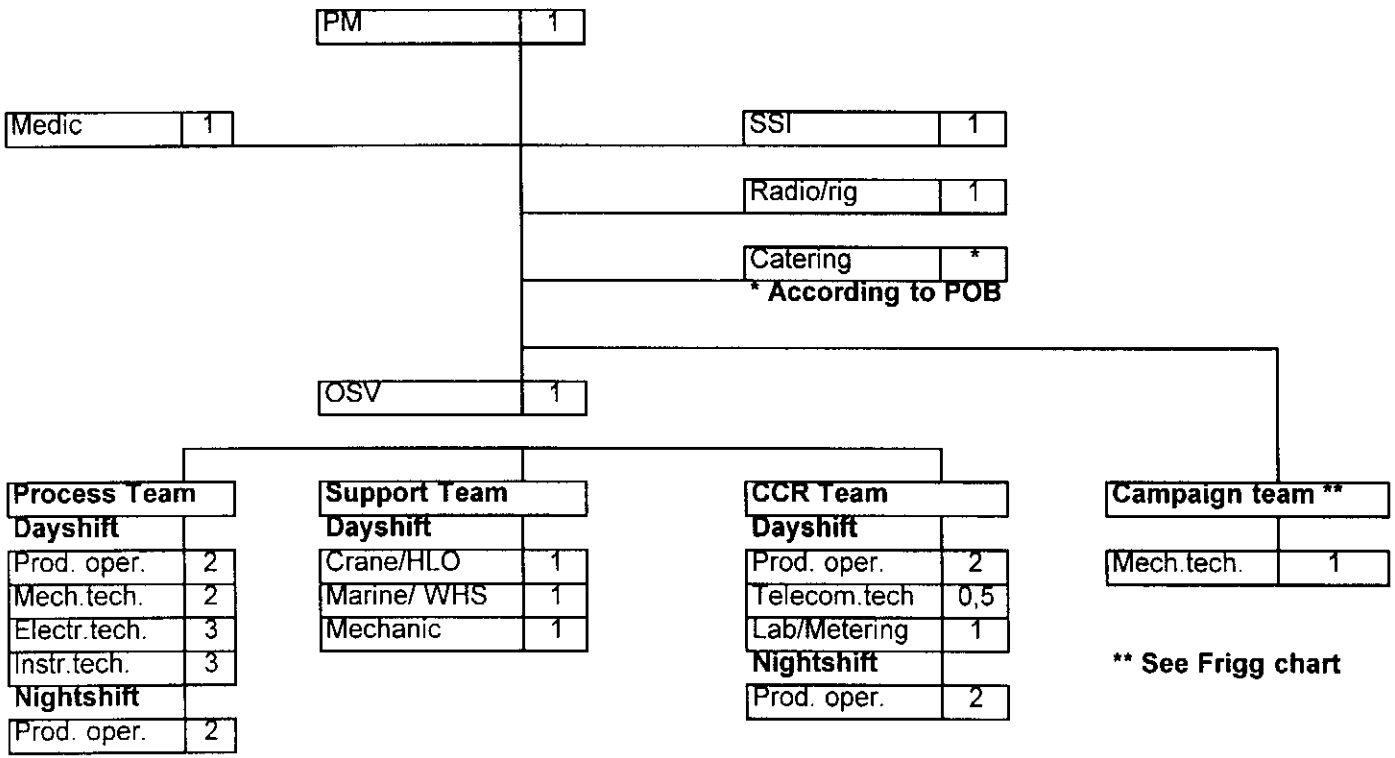
*** (d) Marine & Crane Operator act as HLO & Fireguard on QP Helideck**

*** (e) Proximity person: Mechanic on helicrew. Back up: Adm. off.**

14.03.97

One position within each trade (Instrument,electro and mechanical) will be nominated as trade coordinator.

FUTOP 97 - Heimdal offshore organisation



Total positions included Campaign team, excluding Catering: 26,5
One position within each trade (Instrument, electro and mechanical) will be nominated as trade coordinator.

14.03.97

3.3 Offshore Field Manager (OFM)/ Platform Manager (PM)

The OFM is the overall responsible for the offshore operations and the general safety, health and work environment on the installations. He is part of the FOD management and reports to Head of FOD. The PM on Heimdal reports operationally to the OFM. The OFM/PM is technically and administrative responsible for the installations. He is responsible for meeting production nominations both with respect to quantity and quality of the products. He is responsible for the execution of defined Work Programs in a safe and efficient manner.

The OFM/PM shall ensure compliance with legislation in force, and report to the authorities according to ELF procedures.

In case of an emergency situation the OFM/PM shall lead the emergency organisation and initiate necessary actions to secure personnel and installations, to protect the environment and limit consequences of the incident.

The OFM on Frigg, and PM on Heimdal, are also responsible for the "production trade" functions previous kept by the Production Superintendent. This includes a tight communication with POD onshore in production matters.

3.4 Operational Team

The Operational Team (OT), managed by an Operational Supervisor (OSV), shall run the daily operations of the platforms. The operational team will be responsible for:

- Process, control and monitoring
- Operational activities for all four trades (including production)
- Frøy/DP2 operation on site
- Trouble shooting
- Minor/Medium size repair of failures critical to personnel safety and the availability of the production process
- Prioritisation of repairs
- Monitoring of system condition and 1st degree maintenance
- Approximately 30% of PM work

The Operational Team will be multi-skilled with clear authority to maintain and operate defined operational functions, denoted **Main Functions**, see Appendix A and C.

The Operational Team shall give priority to activities which are critical for safe operation and which is of immediate need for continuos production. The Operational Team shall therefore have focus on the operational activities, and the team will carry out non-deferrable repair tasks which can be handled by the resources and competence available within the team. Non-critical repair shall normally be planned and prepared as campaign work, and the Operational Team shall only undertake PM tasks if time and resources permit the completion of the tasks.

3.5 Campaign Team

The Campaign Team, managed by a Campaign Supervisor (CSV), shall be responsible for:

- Medium/major repair of critical failures
- Most repair of non-critical failures
- Approximately 70% of PM work, including work that are identified to have "point-of-no-return".

The Campaign Supervisor reports to the OFM/PM. A CSV will be offshore on Frigg at all times to manage the campaign work, while one CSV shall be present in the TSD onshore organisation to undertake detailed planning and preparation for coming campaigns. 4 persons are required to fill the CSV function offshore and onshore.

The Campaign Team activities will be performed by multi-skilled working groups with designated Job Leaders for each job. Two formal levels of contact between the Operational and the Campaign Teams exist:

- The **Campaign Supervisor** (CSV) and the **Operational Supervisor** (OSV) will co-ordinate the overall planning issues between the two teams and shall optimise the available resources taking due account of the principles laid down in the "Production and Maintenance Principles for Frigg & Heimdal". The OSV shall verify the campaign plans with respect to operational feasibility and avoidance of conflicts between simultaneous tasks.

- The individual **Campaign Job Leaders** shall co-ordinate their daily work with the relevant **Main Function Trade Responsibles (MFTR)**, see section 3.6.2. The Main Function Trade Responsible shall upon completion of a job managed by the Campaign Job Leader, perform a technical verification of the job and receive back 'his' equipment. These principles will be reflected also by modifications of the Work Permit and the Work Permit procedure, PMM-9. The new Work Permit handling procedure is shown in Appendix B.

  For major jobs the OSV may decide to perform the technical verification through a hand-over / take-over programme designed along the Mechanical Completion lines. Upon completion of the campaign, the MFTR shall then sign for systems taken over, and in case of discrepancies, punch-lists are prepared, itemised, weighted with work hours and the campaign can complete the campaign budgets through transfer of resources to the OT for punch-list close-out. (A tailored system based on the "Mechanical Completion verification and take-over" principles shall be developed).

A Campaign Job Leader will, during execution of a specific maintenance task, act as a project leader with the full authority and responsibility for the particular job. He shall report work execution to the Campaign Supervisor who is the overall responsible for resource utilisation.

3.6 Description of position responsibility and authority

3.6.1 Operational Team - Working principles

In principle, the Operational Team will operate as a matrix organisation where responsibility for operation of a defined set of Main Functions (see definition in Appendix A) has been delegated to *teams* with required trade competence to both operate and maintain the functionality of the equipment. These teams have been denoted **Main Function Teams**, while the trade representatives in a team have been denoted the **Main Function Trade Responsible (MFTR)**. On Frigg we have the following Main Function Teams:

- Oil team
- Gas & condensate team
- CCR team
- Support team
- Core team (Frøy/DP2 core team)

Similar, on Heimdal we have the following Main Function Teams:

- Process team
- Support team
- CCR team

All activities performed by the Main Function Teams shall be reported to the OSV who will also be responsible for work prioritisation and personnel allocation.

The responsibilities of the Main Function Teams have been defined in terms of the functional requirements. The following basic principles have been applied:

- *The Main Function team is responsible on behalf of the OSV for operation of the main function and execution of planned activities to maintain the technical condition of the equipment, i.e. the team is collectively responsible on behalf of the OSV for the functionality (availability) of the Main Function. The team as an entity is the "owner" of the Main Function.*
- *Each Trade Responsible is responsible towards the other Main Function Team members for effectuating the required activities (technically and operational) in order to maintain the overall functionality of the Main Function.*

As an example, the Main Function Team (i.e. Oil team) which holds the responsibility for the Main Function: "TCP2 oil export" is collectively responsible for the production availability of the oil export facilities and the technical integrity of the equipment.

The team as an entity is responsible for the functionality of the oil export facilities on behalf of the OSV:

- They report collectively to the OSV as a team, not as individuals.
- The mechanical Trade Responsible in the team is responsible for maintaining the technical condition and the reliability of mechanical equipment, and similarly, the electrical and the instrument Trade Responsibles are responsible for the technical condition and the reliability of electrical equipment and the instruments respectively.
- For a process function, like the TCP2 oil export, the Production Trade Responsible (CCR operator and Field Operator) is responsible for meeting nomination requirements with specified product quality, and thus responsible for operation (running/use) of the equipment within its design and operational frames.
- Each individual Trade Responsible is responsible for effectuate the required actions (operational-, PM- and AC activities) to maintain his responsibility on behalf of the team, not the OSV directly.
- The Trade Responsible should request additional resources and competence from other Main Function Teams and the Campaign Team when required, to carry out the necessary work activities. He is responsible for the quality of the work and recovery of the functionality of the equipment after completion of a repair or preventive action performed on his equipment.
- Performance indicators (PI) will be developed to measure the quality of work in order to give feedback and support a continuos process for improvement of the operations. As far as possible the performance indicators shall be based on the indicators already implemented for measurement of general performance parameters.

There is also a need for PI's for control and feedback on a team level. A project will be established to develop and prepare for implementation of suitable indicators of the basic offshore activities. The performance indicators for the Main Function Teams should primarily measure the reliability of the equipment (technical condition) and operational performance, i.e. the ability of the operator to run the equipment without unexpected interruptions, ref. chapter 4.

3.6.2 Positions in the Operational Team

In the following the main positions of the offshore organisation is described in terms of authority and responsibility , daily work activities and reporting lines. Main emphasis is given to the new positions in order to highlight the changes in the operations after implementation of the new organisation.

Operational Supervisor, OSV

The OSV have the overall responsibility for the work undertaken by the Operational Team. He is overall responsible for all personnel in the OT, i.e. without no further formal delegation of personnel responsibility to particular trade supervisors. The OSV will be responsible for:

- all personnel resource allocation
- overall professional competence in own organisation
- planning of work carried out by the Operational Team and co-ordination of campaign work with the CSV
- requesting assistance from the Campaign Team
- verifying Work Permits (interface with OFM/PM and SSI)
- quality control and verification of all activities under his area of responsibility.

Regarding personnel allocation, the principle is that the Main Function Trade Responsible shall directly ask colleagues in the Operational Team for assistance. Only in case of conflicts of interest arise, the OSV will have to prioritise resources and allocate personnel for the various tasks.

Main Function Trade Responsible (MFTR)

The Main Function Trade Responsible is responsible for effectuating the necessary activities to maintain the functionality of the equipment. All positions in the Operational Team will be responsible for one or several Main Functions as defined by the matrices enclosed in Appendix C.
For example: Mechanical 1 in the Oil Team will be Main Function Trade Responsible (MFTR) for Main Function No. 3, 5, 13,15, 16 and 17. Also deputy trade responsibility functions have been assigned to relevant positions, e.g. deputy functions for the Core Team while they are on Frøy or DP2.

The technical performance and the integrity of the equipment will normally be maintained by MFTRs with mechanical-, instrument- or electrical profession. They will perform:

- execution of daily walk-around (skriverunder)
- execution of 1st degree maintenance and/or simple PM (pre-defined part of the PM program)
- verification of campaign PM/AC work prior to final approval of the Work Permit.
- planning and verification of repair activities carried out by other resource personnel in the OT, CT or vendors.
- Job leader for PM and repair work executed by the Operational Team.

(The Work Permit system will be modified to reflect the responsibilities/authorities of the various positions and task in the new organisation, see also section 4.3: "Verification and control")

Equivalent to maintaining the technical performance, the daily operation of the Main Function facilities will be maintained by the production trade professional; normally the CCR operator and/or the production Field Operator will be MFTR for the running operations. For other Main Functions like power generation and distribution the operational responsible will be an electrical trade professional, for lifting appliances the operational responsibility will be a mechanical trade professional.

Main Function Trade Responsible for operation of the facilities shall carry out his daily duties through defined activities like:

- CCR running function.
- local operation of equipment.
- monitoring and control.
- "walk-rounds/check rounds (skriverunder).
- 1st degree maintenance activities.
- other operational duties as specified by Job descriptions and Position descriptions.

The MFTR is expected to call upon professional technical competence (preferably the other personnel in the Main Function Team) if faults are detected which prevent efficient and safe operation of the equipment.

The Main Function Team will either carry out the work on their own, or draw upon relevant resources within the operational team provided the work have sufficient priority compared to other tasks. Assistance from the Trade Co-ordinator, resources from the campaign team or from vendors/contractors may also be requested. The trade responsible will directly ask colleagues in the operational team for assistance. Only in case of conflict of interest arise, the OSV will priorities resources and allocate personnel for the various tasks.

Frøy/DP2 Core Team

Both the Frøy and the DP2 platforms have been divided into different Main Functions similar to the FCC platforms and Heimdal. A Core Team is established to maintain the functionality of the facilities on the two platforms. Apart from the necessary pre-cautions to be taken with personnel onboard the normally unmanned platforms and the practicalities in connection with logistic supports and MR preparations, the Core Team will in practice operate according to the same principles as the other Main Function Teams, and the Core Team will also have responsibility for Main Functions on FCC, see Appendix C. While onboard Frøy and DP2 the Core Team will have a Core Team leader who reports directly to the OFM, while the team is collectively responsible towards the OSV for the their operations on FCC as other Main function Teams.

While the Core Team members are on the FCC they shall take part in the daily operations and assist their colleagues as any other personnel in Operational Team.

Trade Co-ordinator

On each shift there will be one mechanical-, one instrument- and one electrical trade specialist, named Trade Co-ordinator. The Trade Co-ordinators will be experienced senior personnel with particular trade competence and offshore experience. The Trade Co-ordinators shall, as all the other OT personnel, work as a member of the Main Function Teams, and they will report their daily activity as other MFTRs in the Main function Teams. As opposed to the role of the present trade Supervisors, they will have no personnel responsibility, and the supervisory functions lies with the OSV.

The Trade Co-ordinator will often have competence which is complementary to the OSV, and they shall assist the OSV with professional trade competence in planning and execution of his responsibilities upon request from the OSV. The Trade Co-ordinator will assist the MFTRs with professional skills. Typical tasks for the Trade Co-ordinator could be:

- assist with professional training of the OT.
- quality control and verification on behalf of the OSV.
- assist OSV with planning and professional trade questions, in particular with the co-ordination of campaign work.
- assist Main Function Trade Responsible according to need.
- professional assistance in connection with campaign jobs.
- maintain certificate files.

The Electrical Trade Co-ordinator will have a special position as switching leader, and he will be the offshore representative for the electrical competent person ("elektrisk driftsleder") who is the Head of Electrical Section.

Other Operational Team functions

All personnel in the Operational Team will be assigned to one of the five Main function Teams. This applies also to :

- Metering technician (CCCR team)
- Laboratory technician(CCR team)
- Telecom. technician (CCR team)
- Marine co-ordinator / HLO (Support team)
- Warehouse (Support team)
- Crane driver (Support team).

The personnel mentioned above will be MFTR for their respective Main Functions as specified in Appendix C.

3.6.3 Description of positions in the Campaign Team

Campaign Supervisor (CSV)

The CSV will be responsible for the planning, preparation, execution and reporting/administration of the various jobs constituting a campaign. On Frigg there will be a permanent CSV function in charge of the daily activities performed by the Campaign Team, and for planning and co-ordination of the daily activities with the OSV. The onshore CSV will perform most of the longer term planning and preparation work in connection with procurement of spares and tools, resource allocation, logistic support and preparation of necessary documents, including Work Permits. In particular, the CSV will be responsible for:

- planning and scheduling of the daily activities together with OSV
- nomination of Campaign Job Leaders and allocation of personnel for the various job tasks
- prioritise campaign jobs and re-scheduling if deviation from original campaign plan
- overall quality assurance and -control of campaign activities
- be part of the onshore planning function

On Heimdal the offshore CSV function will be maintained by the OSV, while planning and preparation for the campaigns will be carried out onshore as for the Frigg operations.

Campaign Job Leader

For each major PM or repair task a Campaign Job Leader shall be nominated. The Job Leader will then be in charge of a team of professionals who will carry out the actual job in question. The Job Leader will co-ordinate the work with the Main Function Trade Responsible in the Operational team who will verify and approve the work on behalf of the OSV.

The Job Leader is responsible for the execution of the PM or AC activity according to plans and schedules in a safe way and with the expected quality.

3.6.4 Description of other positions

Safety Superintendent (SSI)

The position and the authority of the SSI has in principle been kept unchanged. The SSI is the deputy for the OFM/PM.

FutOp implementation superintendent

This is a temporary position reporting operationally to the OFM, and functionally to Deputy FOD Manager. The position will cover both Frigg and Heimdal. The superintendent shall assist in implementation of the new operational principles and become a facilitator for preparation and adjustment of the new routines established for efficient operation within the new regime.

In particular, the implementation superintendents will lead the work with development and implementation of Performance Indicators and other improvement projects.

FUTOP implementation engineer

This is a temporary position reporting to the Deputy FOD Manager. He shall assist and co-ordinate actions towards the various entities in order to ensure efficient implementation.

Other staff positions

The positions will be kept as they are today with the exception of the HLO function which is merged with the Marine Co-ordinator. The handyman position will be transferred to the campaign team.

The function of the Adm. Officer position will mainly be allocated to the technical administrative support to the operational/campaign teams. The Adm. Officer will also act as back-up proximity person on heli-deck.

4 Common Work Principles

4.1 General management and accountability

4.1.1 Budgeting and economical decisions

The main challenge in connection with budgeting and delegation of economical responsibility is to create clear accountability principles within given the frame conditions:

- The offshore work is organised in multi-skilled teams, while the onshore organisation primarily will maintain trade professional sections.
- The planned work programs as well as unplanned repairs will be decided by the operational needs, i.e. the needs of the offshore operations.

Possible conflicts arise when work tasks are decided offshore, while the economical budget responsibilities lies with the onshore organisation.

The solution to this problem has been to focus more on preparation and follow-up of Work Programs as the day to day cost management tool. Since the operating budget is based on the Work Program, the ability to execute the Work Programs according to resource plans and time schedules will be good key figures (performance indicators) for the actual cost associated with the operations. The OFM/PM and the supervisors will be accountable for their Work Programs, and thus implicit their influence on the cost generated by the activities. The offshore managers are authorised to make economical decisions within the frames of the Work Programs (This will be defined in more details at a later stage).

The budget process will start with a kick-off meeting. In this meeting we define and present the budget objectives and frame conditions (e.g. %, cost/bbl, ceiling for non-recurrent costs, provisions, etc). Specific objectives that can be used for delegated budgets will also be discussed. The FOD Manager is budget responsible for OPEX and corresponding parts of non-routine budgets. He sub-delegates the budget cost line by cost line to the Onshore Manager at the lowest practical level.

The "cost line responsible" defines the detailed Work Programs, and calculates the cost for performing the work. This provides also the direct input to the budget. For work of a campaign/project type, such as maintenance campaigns, wirelines, etc, budgets follow the Work Programs. This means that the one responsible for the campaign/project is accountable for performing the work in accordance with the work program, and all relevant cost generated by the campaign/project.

The "Cost line responsible" is responsible for ensuring that the Work Programs are executed in accordance with operational needs, and with the optimal use of resources.

At a company level economical control will have to follow a "matrix" way of thinking. On one hand, we have each individual asset, i.e. a field or platform. We discuss Work Programs, budgets and cost reports with our partners based on the assets. On the other hand we have cost-lines for the various types of work activities. The FOD organisation is built to serve all operated producing assets and organised accordingly a cost-line is a more logical way of delegating budget responsibility. The matrix shown below illustrated the two dimensions of economical accountability.

Example:

	Assets			
Cost -lines (activities)	Frøy site	Heimdal site	Other sites	Sum Cost-lines
1.1 Management and Operations	X1 kNOK	Y1 kNOK	etc	Total1 kNOK
1.2 Maintenance of platforms	X2 kNOK	Y2 kNOK	etc	Total2 kNOK
1.x Other cost-lines	etc	etc	etc	etc
Sum Assets	TotalX kNOK	TotalY kNOK	etc	Total Cost

The adjustments in budget principles is planned from the 1998 budget, starting with the budget process summer/autumn 1997.

4.1.2 Site Co-ordinators

"Site co-ordinators" are appointed for each field. The site co-ordinators will organisationally be placed in "Heimdal Production" or "Frigg Production" in POD. The site co-ordinators duties are:

- Provide, document and distribute the budget frame conditions for their site within start of budget process
- Endorse the Work Program for their sites which are based on proposed Work Programs with corresponding budgets from the sections
- Monitor the Work Program execution for their sites and make recommendations to the cost line responsibles
- Verify all offshore work affecting production
- Validate production data
- Prepare reporting of routine activity on the site
- Co-ordinate tasks with DCD and Reservoir.

4.1.3 Developing more multi-skilled teams and personnel

We need to ensure that more than one person is able to perform the critical tasks as a result of manning reduction.

Multi-skilled teams and personnel are mainly developed by a "learning by doing" approach, and when performing "day to day" tasks. First line managers (section heads, supervisors, department managers, etc) will have an important role in developing their personnel by consciously selecting people to perform the different tasks, and focusing both on:

- solving the task correct and efficiently
- ensuring that the total team is developed to meet future challenges.

The personnel responsibility will as a consequence increase its importance for the first line managers. Personnel responsibility is in accordance with the "Management of Quality" document : "The responsibility to select and develop employees in order to best solve current tasks and prepare the employees for future tasks, and to motivate them to develop their full potential."

4.2 Offshore work planning routines

In order to ensure that the new organisation is functioning optimally, a common planning system will be established. This system comprises the Production Plan as well as the scheduled Work Plans for both the Operational Team and the Campaign Team. The Production Plan is prepared by POD which is also responsible for the long term planning of maintenance activities performed by the Operational team, while the Campaign plans will be the responsibility of TSD. Weekly and Bi-weekly work plans will be prepared onshore and reviewed and approved by the offshore organisation. Detailed work programs shall be prepared offshore , and it is the offshore operations responsibility to co-ordinate the day to day work program for the Main Function Team and the Campaign Team.

4.2.1 Planning responsibility

The OSV is responsible for the overall planning and scheduling of the operational activities to take place offshore. He is responsible for prioritisation of tasks when conflicts arise between operation of the facilities and access for maintenance, disposal of personnel resources, etc.

The CSV and the OSV will co-ordinate the overall planning issues between the two teams. The resource allocation and the work task planning shall follow the principles laid down in the "Production and Maintenance Philosophy for Frigg & Heimdal" document.

Detailed planning of the daily work is the responsibility of the Main Function Teams and the Job Leaders for the maintenance tasks.

The principles for the planning work both onshore and onshore are shown in the enclosed flow diagram, see Appendix G.

4.2.2 Onshore planning

Annual Work Programs for the Operational and the Campaign teams will be developed on basis OPTIMIS annual PM program and FOD budget plans. The two teams will in practice be accountable for the execution of the work with in the frames of the Work Programs, see section 4.1.

A 7 week plan for the for the operational activities is prepared by POD onshore on basis of the overall annual Work Program. The 7 week plan shall take into account the monthly production plan and form basis for the 2 weekly operating plans which shall have a 2 monthly look-ahead horizon.

Similar for the campaign activities, i.e. major repairs, modifications and ad hoc shutdown work, a 2 monthly campaign plan shall be developed by the TSD. Normally the onshore CSV will be in charge of this planning work. Based on this plan and taking due account of the 2 weekly operational plan, a detailed 2 weekly campaign plan will be issued for review and approval by the offshore organisation.

The annual PM program is included in OPTIMIS, and OPTIMIS will be available as per today. For preparation of the 7 weekly and 2 weekly plans MS Project shall be available for resource planning and detailed scheduling of the work tasks. There has been created a link between OPTIMIS and MS Project which help the planners to extract and transfer information from OPTIMIS to MS Project. While OPTIMIS will still serve as the maintenance management system, CRIS will include operational activities and 1st line maintenance routines. MS Project will be the short term planning tool for the resource and scheduling of the combined set of activities to be co-ordinated either it stems from the campaign/maintenance work program or from the operational work program.

4.2.3 Offshore planning

When received the agreed 2 weekly plans and the Weekly Production plans on Friday, the OSV and the CSV will have a weekly co-ordination meeting, the **Saturday planning meeting.** The detailed 2 weekly Work Programs will be reviewed and updated accordingly in the meeting for both the Operational Team and the Campaign Team. Any co-ordination problems will be sorted out as far as possible in this meeting.

These Work Programs include all planned jobs in the next two weeks for both Operational Team and Campaign Team. The 2 weekly plans from onshore will be available in MS Project (from the P-disc), and this planning tool is expected to be used for updating of the 2 weekly Work Programs as well.

Campaign Team planning

The CSV and the Job Leader in the Campaign Team will plan their daily work on basis of the 2 weekly Work Program. The Job Leader shall co-ordinate his work tasks with the Main Function Trade Responsibles in question prior to execution of the technical work on the equipment. Tasks which requires Work Permits, will be handled according to the WP handling procedures, see separate chapter. The daily WP meeting will be the final review of the day-to-day plans for the campaign jobs. The WP's will be signed and co-ordinated by the CCR operator, and the Job Leader will receive the approved WP from the CCR operator.

Job Leader is responsible for reporting in OPTIMIS after completion of the maintenance requests.

On HMP1 the 2 weekly plan will be printed out by the Frigg CSV and handed over to the campaign job leader. A close co operation with OSV on Heimdal is required.

Operational Team planning

On basis of the 2 weekly Work Program for the Operational Team the different Main Function Teams shall develop detailed 4 days look-ahead plans for their own activities. If any changes to the 2 weekly Work Programs are found necessary this shall be communicated to the OSV immediately if re-prioritisation of other activities are required. The 4 days plan shall be updated every morning if found necessary. The 4 days look-ahead plans shall include both the daily operational activities and PM/AC performed by the Main Function Teams.

Planning of the work shall be based on the principles and priorities laid down in the "Production and Maintenance Philosophy for Frigg & Heimdal" document.

Maintenance work perform by the Main Function Teams shall be reported in OPTIMIS, while operation activities and 1st line maintenance shall be reported in CRIS accordingly as needed and as specified by operational procedures. Any deviations from the plans which might influence other plans and prioritisation of resources shall be reported to the OSV immediately.

4.3 Performance of work

The new offshore organisation and management principles have been developed to ensure more focus on the essential activities for maintaining the required availability of the production of oil and gas. In practise, this means that all work should aim at maintaining the reliability of essential equipment and operate the facilities safely within its design limitations. We believe our operational goals with respect to productivity and cost can be better obtained if the different professional trades work closely together in teams with a clear, common goal to maintain the functionality of defined equipment.

Delegation of responsibility from the trade sections to the multi-skilled offshore organisation implies management focus on the performance of the core business of oil and gas production, as opposed to the professional skills of the different trades. Multi-skilled teams also require co-operation and effective work processes. It is expected by everybody that they contribute in this process and take responsibility for creation of a good climate for co-operation between the trades and between the Main Function Teams, as well as between the Operational Team and the Campaign Team.

4.3.1 Operational documents and administration systems

Operational documents, operational (CRIS) and maintenance (OPTIMIS) management systems, QA/QC routines and performance indicators are instruments which have been develop to assist the organisation and the individuals in their daily work processes. Operational systems and routines shall ensure that all work is carried out efficiently and with required quality independent of who is in charge of the actual job. Defined work systematics are important on all levels in the organisation to keep a certain control of the work process and as a basis for continuous improvement of our work and business processes. The challenge is to balance the need for rigid systems and procedures which tends to create bureaucracy, and creating a climate where the individuals take responsibility and become creative in their way of working. The longer term objective is to replace as much of the PMM and COP (FOP/HOP) as possible with business or work process facilitate effective work execution.

The operational documents describe administrative and technical working principles, but they also describe the frame conditions within which Elf Norge as operator are responsible according to law, Elf Group requirements as well as internal requirements. The production and Maintenance Principles is the guiding document for Elf Norge's offshore operations. The document sets out the operating principles to adhere to in order to meet the objectives of the FOD. Critical activities are regulated by various procedures such as Platform Management Manual (PMM), Common Operating Procedures (COP), platform specific procedures (FOP and HOP) and Operating Procedures/Manuals.

Activities, plant status and operational status shall be reported and logged in accordance with needs, FOD management requirements and authority requirements. Reporting is the responsibility of the different positions in the organisation. The report shall form part of the operational routines to ensure efficient and safe operation of the plant, and is an important part of the feed back loop for continuous improvement of the operations.

Two separate management report systems maintain in principle the requirement for the offshore operations:

- OPTIMIS for management of maintenance activities
- Computerised Reporting and Information System - CRIS , for management of the daily operational activities.

A description of the reporting, logs and check list systematic is further described in Appendix D.

4.3.2 Work Permit handling

The Work Permit system has been slightly modified and tailored to the new organisation and principles for responsibilities. The system will in the future maintain two functions:

1. The Work Permits shall ensure that necessary safety pre-cautions have been made before the planned work can be started.
2. The Work Permit shall also be used to document that necessary verification of the work have been undertaken and that the systems are clarified for start-up after completion of the work.

The Work Permit handling procedure is described by the flow diagram enclosed in Appendix B together with the modified WP forms. As before the OFM/PM approves the WP while the OSV, SSI and El. Trade Co-ordinator (when required) verifies the WP at the WP Meeting. The CCR operator will in co-operation with the OSV co-ordinate the WP's before they are signed and issued to the Job Leader and he shall be up-dated about the status of the work at any time.

Both the MFTR who is technically responsible for the equipment (could be the Job Leader) and the operational MFTR shall sign the WP prior to any intervention on the equipment. After completion of the work the two MFTR's shall verify that the work have been conduction with required quality and that the systems have been made ready for safe re-start. Consequently, the Job Leader sign for work completed and self-check carried out, the MFTR's signatures confirms that the required independent verification have been carried out and that the equipment/system is clarified for normal operation.

CCR shall be informed about the status of the equipment, and he will receive the signed WP's before they are handed over to the SSI who is responsible for filing and up-dating of the WP logs.

4.3.3 Performance Indicators

To facilitate a continuos process of improving the operations a set of Performance Indicators (PI) shall be developed to help managing of key activities. PI's are considered to be important elements in control and improvement on long term basis of the daily activities within the operational and campaign teams, and in the co-operation between the two teams.
Different types of PI's, with corresponding examples, are:

- Safety System Performance
  - Fire and Gas Detectors availability
  - Emergency generator availability
  - Fire Water Pumps availability
- Equipment performance
  - Field availability
  - Product Quality
  - Flaring
  - Hydrocarbons in discharge water
  - PM / AC ratio
  - Gas leaks
- Work Efficiency
  - PM backlog
  - Other backlogs
  - Mean time to repair
  - Outstanding mod notice
  - Overdue corrective actions
  - Undesired events
- Work environment
  - Overtime statistics
  - Sick-leave statistics
- FUTOP Implementation
  - VSKTBs
  - Team competence
  - OPEX
  - ISRS rating

PI's shall not become a management tool only, the indicators shall be adapted so that the operational and campaign teams can measure and improve own performance.

The FutOp Implementation Superintendent will be responsible for development of the new PI's together with the offshore line organisation and in co-operation with the relevant onshore entities. The new PI's shall be based on the existing PI's developed for the management of the FOD activities.

The principles for development and implementation of Performance Indicators have been further outlined in Appendix E.

4.3.4 Verification and control

Our working principles shall be based professionalism in work execution and that each individuals take responsibility for the quality of own work. This implies that we adhere to first line quality control on the principle of *self-check*. A signature on a Work Permit or on a check-list shall imply that work has been completed and that self-check has been carried out.

If the activity is critical to safety and working environment for personnel, external environment, assets and production regularity *independent verification* shall be undertaken. The line management, i.e. OFM, OSV and CSV, is responsible for execution of independent verification, which in practice means that a person not directly involved in the work execution controls and accepts the job before it is completed and the system is prepared for normal operation. The Work Permit system, including the Authorisation for Work, will be modified to clarify the role of the verificator in connection with PM and repair work. Normally, when maintenance has been carried out by the Campaign Team or vendors, the Main Function Trade Responsible will verify and sign of the Work Permit before the equipment is delivered back to the Operational Team. The production MFTR (or operational responsible) will normally verify that the system is ready for start-up. If the work has been carried out by one of the maintenance trade MFTR, the production MFTR will normally verify and sign off for completion of the activity and ensure that the equipment is ready for use.

The line management can decide that the verification shall be undertaken by a *3rd party*, i.e. Elf personnel outside FOD or external contractors.

The outer loop of the quality assurance system is *audits*, which are spot-checks done on behalf of management into the quality of the a management and operational systems. In Elf Norge, we undertake audits internally to:

- check the functionality and efficiency of internal systems
- ensure compliance with the Internal Control Regulations (including also laws and regulations).

Authorities and our partners undertake audits to ensure compliance with laws and regulations and Elf ability to fulfil the contractual obligations.

The principles of verification and control have been further outlined in Appendix F.

Appendix A: Main Functions

For the purpose of the FutOp-project activities, the following platform functions, named Main Functions, on Frigg and Heimdal have been defined:

With respect to operational activities and split of this into operational functions, we had to modify the original platform functions for FCC. The reason for the change was related to the " Petroleum Function " where the Frigg partners share the operational cost according to different fields ownership. Further the OPTIMIS systems have been split in order to allocate cost according to Petroleum Functions, and to some extent it has been necessary to re-define platform functions for traceable cost allocation.

Frigg:

No:	Main Function:	Petroleum function:
1	Frøy WHP process	FRØY
2	Frøy WHP others	FRØY
3	Frøy M35 gas / oil	FRØY INLET
4	LF subsea and inlet gas / oil.	LF SUBSEA LF INLET
5	TCP2 oil export	OIL TREATMENT&EXPORT OIL & COND. TRANSPORT
6	EF subsea and inlet	EF SUBSEA EF INLET
7	DP2 platform process	DP2
8	DP2 platform others	DP2
9	DP2 inlet	FRIGG INLET
10	Alwyn & TP1 process	TP1 ALWYN INLET TRANSPORTATION LINE 1
11	Water injection & gas lift	FRØY
12	Gas treatment & export TCP2	GAS DEHYDRATION TRANSPORTATION LINE 2
13	Frøy & LF gas compression	OFF GAS COMPRESSION
14	Condensate & Reinjected water TCP2	OIL & COND. TREATMENT DP2 WATER INJECTION
15	Fuel gas CC	POWER GENERATION
16	Power generation & Distribution	POWER GENERATION
17	Metering & Laboratory	FISCAL METERING LABORATORY
18	Workshop & Warehouse	WORKSHOP&WAREHOUSE
19	HVAC	UTILITY
20	Lifting / Column equipment	UTILITY
21	Fire & Lifesaving appliances	UTILITY
22	Process Utility	UTILITY
23	Safety & Control system	UTILITY
24	Common utility	UTILITY
25	Primary & Secondary structure	UTILITY
26	FCC General management, administration and supervision	
27	Vacant	

Heimdal functions.

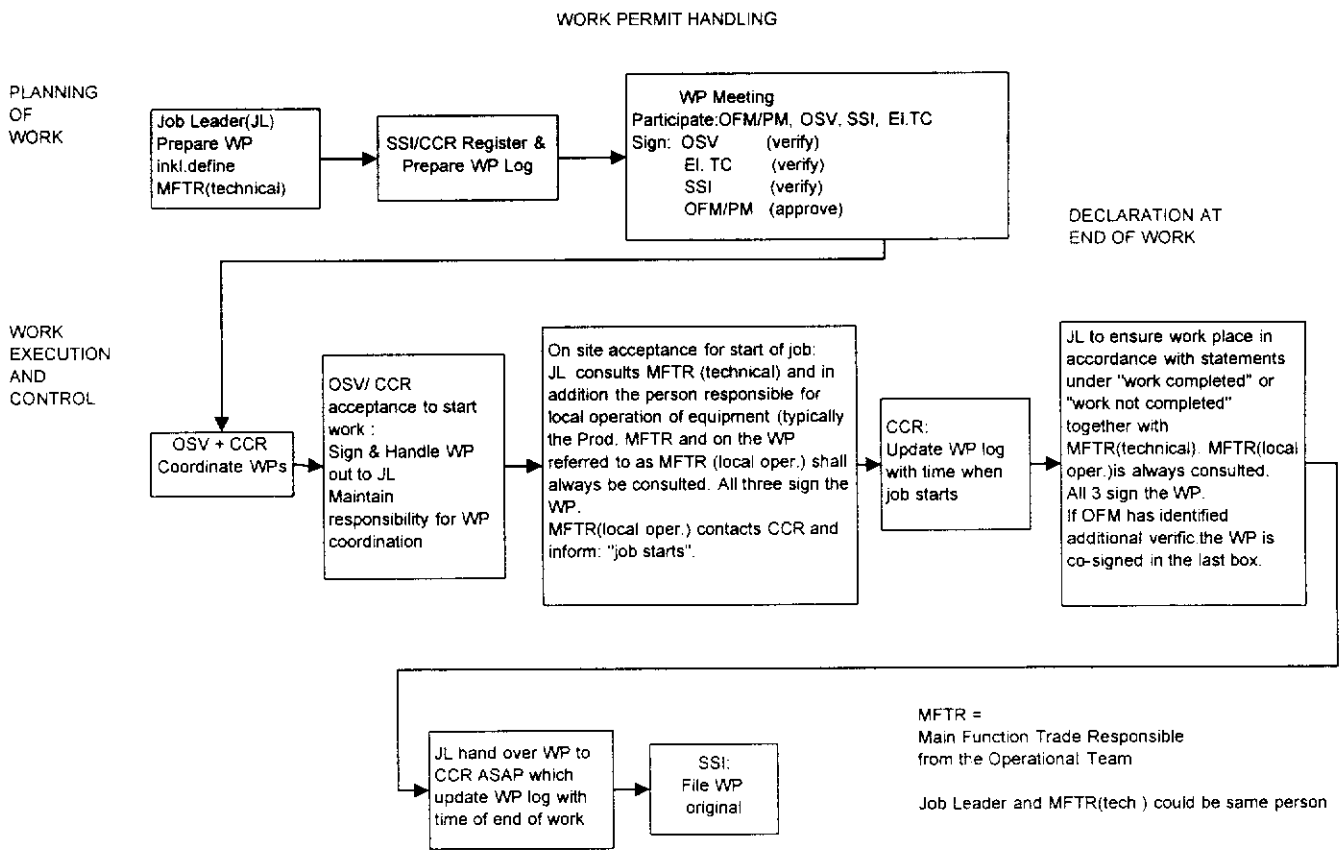
28	HMP1 Process	HEIMDAL
29	HMP1 Process Utility	HEIMDAL
30	HMP1 Utilities	HEIMDAL
31	HMP1 Electr. Pow.Gen. & Distr.	HEIMDAL
32	HMP1 Lifting Appliances	HEIMDAL
33	HMP1 Fi-Fi and lifesaving appliances	HEIMDAL
34	HMP1 Meter.Sampl. & Lab	HEIMDAL
35	HMP1 Common Utility	HEIMDAL
36	Control function & Telecom	HEIMDAL
37	HMP1 Primary & secondary structure.	HEIMDAL
38	HMP1 General management, administration and supervision	

Appendix B: Work Permit procedure

Below are shown the work permit handling procedure and the modified Work Permit which have been adjusted to reflect the responsibilities of the new offshore positions.

The Work Permit will be approved by OFM/PM and verified by OSV and SSI prior to issue to the CCR operator for co-ordination with the Job Leaders and MFTR's.

Note that the Work Permit will also serve as the formal the verification document after completion of the maintenance request. The Main Function trade responsible for the equipment and the MFTR for operation of the equipment will sign the permit prior to completion of the work and clarification for start-up. They sign to confirm on-site acceptance. The Job Leader sign when the job has been completed and when self-check has been carried out. OSV will in any case decide the level of verification required. He may if the work is sufficient criticality decide to carry out independent verification. This shall be clearly stated on the WP.



REV.13

elf petroleum norge as

WORK PERMIT

Reg.no:

HOT WORK

- ☐ Hot-Hot Classified area
- ☐ Hot-Hot Non Classified area
- ☐ Electrical
- ☐ Other

COLD WORK

- ☐ Entry to closed space
- ☐ Diving
- ☐ Electrical
- ☐ Radioactive
- ☐ Other

VALIDITY

From date: Hrs.:	To date: Hrs:

PLANNING OF WORK

Pl.form:	Zone:	Deck:	Main function and equipment:	MFTR(tech.) name:	Trade	Requested by: OSV ☐ CSV ☐	Maintenance Req. No.

Description of work:

Equipment to be used:

	Yes	No
Contact w/ hazardous products	☐	☐
Equipment under pressure	☐	☐
Use of pressurised tools	☐	☐
Use of electrical equipment	☐	☐
Work in exposed area	☐	☐
Work on live electrical equip.	☐	☐
Interference with safety syst.	☐	☐
Temp. lifting/ transport equip.	☐	☐
Lifting in process area	☐	☐

Duration of work (hrs.): .....

No. of persons at work: .....

Possible hazards involved

	Yes	No
Health risk	☐	☐
Oil release	☐	☐
Gas release	☐	☐
Fire or ignition risk	☐	☐
Falling objects	☐	☐

Precautions: How to eliminate or control the effect from hazards

	Yes	No
Air flushing	☐	☐
Inert gas flushing	☐	☐
Water flushing	☐	☐
Steaming	☐	☐
Decomp. of equip.	☐	☐
Drainage of equip.	☐	☐
Warning to others	☐	☐
Mark restricted area	☐	☐
Atmospheric check	☐	☐
Special PPE	☐	☐

Number of watches..... Watches supplied by.....

Isolation of:

	Yes	No
Process equip./ systems	☐	☐
Utilities systems	☐	☐
Safety systems	☐	☐
Detection systems	☐	☐
Electric systems	☐	☐

Isolation method:

- Blinding(s) ☐
- Electrical isolation Cert. ☐
- Labels and padlocks ☐
- Isol. labelling only ☐
- Log book ☐

Prepared by			
Job Leader	Name	Sign.	

Additional precautions, safety comments:

Safe Job Analysis ☐ Yes ☐ No	Authorisation for work on prod.syst. ☐ Yes ☐ No	El.Trade Coord.	Name	Sign.	
Any other permits on this equipment or near this location ☐ Yes ☐ No Permit No.:					

VERIFIED BY / **APPROVED BY**

OSV	Name	Sign.	SSI	Name	Sign.	OFM/ PM	Name	Sign.

* Independent Verification to Self Control ☐

WORK EXECUTION AND CONTROL

ACCEPTANCE

The work can start and necessary WP coord. done.	OSV/ CCR	Name:	Time	Sign

Electrical isolation done. Certificate number:	Isolation labelling done. Number/Name:

ON SITE ACCEPTANCE (just before work starts)

Operational precautions have been taken and on-site coord. done.	MFTR (local oper.)	Name	Time	Sign.
Technical precautions have been taken.	MFTR (technical)	Name:	Time.	Sign.
Work site inspected and work will be carried out in accordance with identified precautions.	Job Leader	Name.	Time.	Sign.

DECLARATION AT THE END OF WORK

ORK NOT COMPLETED

- ☐ Equipment and area is safely secured
- ☐ Area checked and found O K

WORK COMPLETED

- ☐ Tools and equipm. removed, area cleaned
- ☐ Normal operation can safely be resumed

Job Leader	Name	Sign
MFTR (technical)	Name	Sign
MFTR (local oper.)/*	Name	Sign.

Appendix C: Position vs. Main Function Responsible Functions

Team split FRIGG Area technical functions*(5)

F:	OIL team	F:	Gas & Condensate team	F:	Core team	F:	Support team
3	Frøy M35 gas / oil	4	LF Subsea and inlet gas / oil	1	FRØY WHP process	18	Workshop & Warehouse
5	TCP2 Oil export	6	EF Subsea and inlet	2	FRØY WHP others	20	Lifting & Column equipment*(1)
13	FRØY & LF gas compression	9	DP2 inlet	7	DP2 Platform process		
15	Fuel gas CC	11	Water injection & gas lift	8	DP2 Platform others		
16	Power generation & Distrubution	12	Gas treatment & Export TCP2	10	Alwyn & TP1 Process		
20	Lifting & Column Equipment *(1)	14	Condensate & reinjected water TCP2	24	Common Utility *(4)		
22	Process Utility	19	HVAC	25	Primary & Secondary Structure		
23	Safety & Control system*(2)	21	Fire & Lifesaving appliances				

*(1) Function 20,Lifting & Column equipment: **Oil Team** trade resp for Column equipment below Cellar deck incl. Hoists. **Support Team** for lifting equipment above Cellar deck.
*(2) Function 23,Safety & Control System: **Oil team** trade resp for Fire & Gas. **CCR Team** for Control system.

F:	CCR Team *(3)
17	Metering & Laboratory
23	Safety & Control system*(2)
24	Common Utility*(4)

(3) CCR Team responsible for operation and monitoring from CCR ,all functions. Listed Functions for CCR Team valid for other trades in CCR team than prod. operators.
*(4) Function 24, Common Utility: **CCR Team** trade resp for Telecom systems. **Core team** trade responsible for the rest of function.
*(5) Please note that some trade positions on a specified team may have duties on another team as well. This is specified in a separat matrix and in position description for each position. In this matrix & positions descriptions it is also defined the trade responsible back up in cases where for instance the core team not present on CC.

Team split HEIMDAL technical functions*(2)

F:	Process Team	F:	Support Team	F:	CCR Team*(1)
28	HMP1 Process	32	HMP1 Lifting appliances	34	HMP 1 Sampling, Metering & Laboratory
29	HMP1 Process Utility	33	HMP 1 Fi - Fi and life saving appliances	36	HMP 1 Control Function & Telecom.
30	HMP1 Utilities	35	HMP 1 Common Utility		
31	HMP1 Electrical Power generation & Distrubution				
37	HMP 1 Primary & Secondary Structure				

***(1) CCR Team responsible for operation and monitoring from CCR ,all functions. Listed Functions for CCR Team valid for other trades in CCR team than prod.operators.**

***(2)** Please note that some trade positions on a specified team may have duties on another team as well. This is specified in a separat matrix and in position description for each position.

MATRIX for Function Responsible per position in Operational team FRIGG AREA

TEAM	Position / Main functon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Oil team	FO 1 / Day			X										X		X		X								
Oil team	FO 1 / Night			X										X		X		X								
Oil team	FO 2 / Day					X					1						X				X		X	X	1	1
Oil team	FO 2 / Night					X					1						X				X		X	X	1	1
Oil team	Mechanic 1			X		X								X		X	X	X								
Oil team	Mechanic 2				2		2			2	1	2	2		2					2	X		X		1	1
Oil team	El. Tech. 1**																X	X								
Oil team	El. Tech. 2			X	X	X	X			X	1	X	X	X	X	X									1	1
Oil team	El. Tech. 3*																				X		X	X		
Oil team	Inst. Tech 1			X		2					1			X		X	2				2		X	2	1	1
Oil team	Inst. Tech 2*					X											X				X			X		
Gas & Cond. team	FO 1 / Day				X		X								X					X						
Gas & Cond. team	FO 1 / Night				X		X								X					X						
Gas & Cond. team	FO 2 / Day									X		X	X									X				
Gas & Cond. team	FO 2 / Night									X		X	X									X				
Gas & Cond. team	Mechanic 1*				X		X			X		X	X		X					X						
Gas & Cond. team	Mechanic 2																					X		X		
Gas & Cond. team	El. Tech 1																			X	2	X	2	2		
Gas & Cond. team	Inst. Tech 1				X		X			X		X	X		X					X		X				
Support Team	Marine																		X							
Support Team	Warehouse																		X							
Support Team	Crane operator																				X					
Core team	CTL 1	X	X					X	X																	
Core team	Deputy CTL	1	1					1	1		X														X	X
Core team	Mechanic 1	X	X					X	X		X														X	X
Core team	El. Tech 1	X	X					X	X		X														X	X
Core team	Inst. Tech 1	X	X					X	X		X														X	X
CCR team	CCR operator 1 / Day	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 1 / Night	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 2 / Day	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CCR team	CCR operator 2 / Night	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCR team	Instrument 1																						X		
CCR team	Telecom tech. 1																							X	
CCR team	Laborant																X								
CCR team	Metering																X								

NOTES:

*** = Deputy core team member**

****= El. Tech 1 on Oil Team to be fixed Trade Coordnator for Electrical Trade.**

X= Trade responsible

1 = Deputy trade responsible for Core Team

2 = Deputy trade responsible for Back up Core team

MATRIX for Function Responsible per position in Operational team HEIMDAL

TEAM	Position / Main function	28	29	30	31	32	33	34	35	36	37
Process team	FO 1 / Day	X									
Process team	FO 1 / Night	X									
Process team	FO 2 / Day		X	X	X						
Process team	FO 2 / Night		X	X	X						
Process team	Mechanic 1	X						X		X	X
Process team	Mechanic 2		X	X	X						
Process team	El. Tech 1				X			X		X	
Process team	El. Tech 2			X							
Process team	El. Tech 3	X	X			X	X		X		
Process team	Inst. Tech. 1	X						X		X	
Process team	Inst. Tech. 2		X	X	X						
Process team	Inst. Tech. 3					X	X		X		
Support team	Crane operator					X			X		
Support team	Warehouse / Marine								X		
Support team	Mechanic						X				
CCR team	CCR operator 1 / Day	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 1 / Night	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 2 / Day	X	X	X	X	X	X	X	X	X	X
CCR team	CCR operator 2 / Night	X	X	X	X	X	X	X	X	X	X
CCR team	Telecom tech. 1									X	
CCR team	Metering							X			
CCR team	Laborant							X			

X= Trade responsible

Appendix D: Reporting, logs and check lists.

Activities, plant condition and operational status shall be reported and logged in accordance with defined needs, FOD management requirements and authority requirements. The reports shall form part of the management routines to ensure efficient and safe operation of the plant, and is an important part of the feedback loop for continuos improvement of the operations. Reports and logs shall be available for the FOD management, the line managers and trade responsibles to document the level of control the different entities have regarding progress and the status of the different activities.

In principle, the person responsible for execution of an activity, operational as well as maintenance activities, also have the responsibility of issuing reports and documentation according to needs and defined procedures.

Two separate management report systems maintain in principle the requirement for the offshore operations:

- OPTIMIS for management of maintenance activities
- Computerised Reporting and Information System , CRIS , for management of the daily operational activities. Part of CRIS will also include the In Service Inspection program with a inspection optimisation and planning routine.

OPTIMIS will be updated according to new maintenance strategies and required changes will be made to reflect the organisation and team responsibility. Else, OPTIMIS will be used, operated and maintained according to existing routines.

The CRIS will be established to systematise the recording and reporting of operational activities. A computerised system with simple user interface and predefined input and report formats will increase efficiency of reporting as well as improve quality and completeness of the logs and reports. CRIS will include check lists, 1st degree maintenance schedules and temporary operational work tasks. The merger advantage of CRIS is that all common information will be easily available to all relevant personnel both offshore and onshore. For the offshore operations it is important that the same information can be shared between all the Main Function Trade Responsibles and the line management, e.g. the OSV and CSV.

The CRIS structure will be prepared for management of the operations according to the modified organisation and new management principles where responsibility and authority is clearly defined on all levels of the organisation. In connection with the evaluation of the operational activity, the need for logs and reports have been critically re-assessed. According to delegation of responsibility for maintaining the operation to the Main Functions Teams, the CRIS user interface will be designed and prepared for application by all categories of personnel; also personnel with limited computer experience.

It has not been found efficient to include all types of logs in the computerised system, e.g. local equipment logs like the EIC log in the MCC room and crane logs, will still remain as local, manual logs. The principles followed are that these logs are only of interest for the local operation of the equipment, and the information recorded is seldom of general interest or required for regular reporting

To improve the planning capabilities, it has been developed an interface for exporting information between OPTIMIS and MS Project which shall be used for resource planning and scheduling of the

work tasks. MS Project shall be used by both the Operational Team and the Campaign Team for planning and co-ordination of offshore work.

A decision on whether a fully integrated maintenance (OPTIMIS) and operational (CRIS) management system will be implemented in the future has been post-phoned to after the implementation of the future organisation. After gaining more experience with the needs of the new organisation and work principles, it will be made a decision on whether or not to continue with an operational management system which integrates OPTIMIS and CRIS into a common computer system.

Appendix E: Performance indicators

To facilitate a continuos process of improving the operations it is necessary to develop a set of Performance Indicators (PI) to help in the management of key activities. This section is applicable for development and application of PI's for the offshore operations only

PI's are considered to be important elements in control and improvement of the daily activities within the operational and campaign teams, and in the co-operation between the two teams. The new organisation has been developed on basis of delegation of responsibility and authority to the function teams. In particular, this require more attention on the quality of work performance, follow-up and feedback to individuals in order to obtain full advantage of the new operations and for improvement on long term basis.

Why performance indicators?

It is said that: " If you can't measure it, you can't manage it."

Measurement is an important basis for improvement. The purpose of measurement is to record changes of parameters, and it serves several functions:

- measured results are, if used correctly, objective.
- measure results are a basis for decision making, and thus acceptance for necessary change.
- trend development of parameters can be monitored, and then the basis for continuos improvement.

Different parameters can, in principle, be measured, but it is important that the scale used must be generally known and accepted. Normally, the measured results should be in quantitative, i.e. in numerical form.

A Performance Indicator is a key-figure, defined and measured, that can indicate level of performance for one specified activity. The PI's should define objectives/goals, and thus be come a tool to ensure that the objectives/goals are met.

Definition and description of the Performance Indicators should include:

- Objective/goal
  What are you going to improve or control, e.g. crane availability
- What can be measured
  Which parameters can in principle be measured
- How can it be measured, selected relevant PI
  Mathematical definition of the PI
- Reporting requirement
  Description of the data files from which the PI parameters can be obtained
- Who is responsible for measurement, analysis and feedback to relevant positions.

In addition it is useful to identify possible constrains regarding implementation of the PI's.

An objective of the new operational principles has been to optimise the operations with respect to cost and production regularity, and at the same time maintain, and preferably improve, safety for personnel and the environment. Consequently, the PI's should reflect the same objectives. The offshore operations has direct influence on:

- production regularity (which is an important parameter for the production income)
- work performance efficiency (affect operational cost)
- safe operation (avoidance of accidents and spill to environment)

and, consequently, PI's should measure the performance of the offshore operations with respect to these parameters.

Implementing PI for management of the offshore operations shall ensure:

- establish a tool for measurement, improvement and follow-up of key activities with respect to their effect on equipment regularity, work efficiency and safety.
- measure effect of implementation of the FutOp plans, particular with respect to operational cost, work efficiency (in particular the co-operation between operational team and campaign team) and production regularity.
- clear definition of responsibility and expectations to key positions in the new organisations. In particular, the responsibility of the main function teams and the individual trade responsibility of the members of the teams
- the effect wanted is continuos improvement of organisation, including personnel skills, on long term basis.

Examples of existing performance indicators

- Safety System Performance
  - Fire and Gas Detectors availability
  - Emergency generator availability
  - Fire Water Pumps availability
- Equipment performance
  - Field availability
  - Product Quality
  - Flaring
  - Hydrocarbons in discharge water
  - PM / AC ratio
  - Gas leaks
- Work Efficiency
  - PM backlog
  - Other backlogs
  - Mean time to repair
  - Outstanding mod notice
  - Overdue corrective actions
  - Undesired events
- Work environment
  - Overtime statistics
  - Sick-leave statistics

FUTOP Implementation
- VSKTBs
- Team competence
- OPEX
- ISRS rating

Example: Development of performance indicator for crane operation

Objective:
Ensure high availability of the crane to avoid unnecessary waiting and delays, and, as the extreme consequence: loss of production. Avoid critical situations and accidents due to malfunction of the crane.

What can be measured:
1. Number of stops during operation
2. Number of incidents/accident with consequences to personnel, equipment damage or cargo loss/damage
3. Hours out of service
4. Percentage time out of service (unavailability)
5. Frequency of delays due to crane malfunction
6. Repair time (calendar time, not man-hours)
7. Number of AC requests
8. Waiting hours of supply vessels due to unavailable crane

Selected Performance Indicators:
1. Crane unavailability: Number of hours out of service per year (month) due to crane malfunction or "disconnected" during preventive maintenance, plus addition waiting time due to absence/unavailability of crane driver.
   Note that waiting time due to heavy weather is excluded.
2. Accidental events: Number of accidents/events according to definitions applied for reporting to Synergy.
   It is recommended to report incidents through the established Synergy routines.

Reporting requirement
1. Crane unavailability: Downtime due to critical failure should be reported in OPTIMIS (or other logs). This should include mobilisation time and active repair time. Today only man-hours are logged in OPTIMIS. Waiting time for the crane driver should be reported from the time the team/supply boat are ready for lifting. Presently, no reporting system are available for this purpose. (Erik: I question if it is wise to include the waiting time of two reasons; it is difficult to measure, and crane driver is most likely to be occupied by other activities which he is not in position to priorities himself.)
2. Accidental events: See routines for reporting to Synergy.

Responsible for PI follow-up
1. Responsible completion of MR report should ensure that crane downtime have been reported.
2. Reporting of waiting for crane driver could be reported by QP marine.(??)
3. Analyses and preparation of regular (yearly/monthly??) feedback reports should be performed by crane driver himself or OSV if report generation could be made automatically from a new OMS, or most likely it will be performed by nominated position in FOD onshore and reported to OSV's who will give feedback to the crane drivers at regular intervals.
4. Any measures for improvement should be implemented in close co-operations with the crane drivers.
5. Regarding reports from Synergy events, it is important to close the feedback loop back to OSV's and the crane drivers. As for the measurement of crane unavailability, the Synergy reports the OSV should receive the results for direct feedback to the crane drivers.

Possible constrains:

No reporting system does exist for registration of waiting time; also the waiting time is difficult to define precisely.

Responsibility
This example have been described in detail to give the reader a good understanding of the content of the various elements. The line management is responsible for development and selection of suitable indicators for his activity; for the offshore activity the OSV and the CSV should be in charge of that work. It is necessary to involve the trade responsibles to ensure a common understanding and acceptance of the indicators and the parameters to be measured.

Appendix F: Verification and Control

Quality Assurance (QA) comprises the working processes and the systems we have introduced to ensure common, traceable ways of undertaking activities to obtain our goals both on short and long term basis.

Quality Control (QC) and verification cover the control, inspection and checking that goods, specifications and services (activities) are made according to our requirements; i.e. our procedures, standards or specifications. In daily life for the FOD operations, the aim of verifications is to check that the planned work are executed in accordance with the expectations; safely, with expected quality and at right time.

It is a fact that the verification system in Elf Norge has plenty of room for improvement, particularly when comes to implementation of the principles and systematic in daily work routines. This will be of importance when we change operational principles, delegate authority and at the same time reduce the manning. Hopefully, the operational routines will be simplified and responsibility better clarified which reduce the need for verification and control in several respect. However, the current way of operating with many supervisory activities and high manning level give a certain confidence that mistakes and deviations would have been identified through the informal working processes.

F.1 Verification

The following requirements to verification activities are from the FOD Quality Manual, but it is recognised that we need to impose these requirements on our daily life, and be sure that we apply to them. Verification should be done at all stages in a job execution, and the main principles for verification in FOD are that:

☑ **Criticality** shall be evaluated regarding the safety, technical, or economic risk involved. The higher the risk level, the more comprehensive verification is required.
Verification shall be concentrated on activities of importance to safety and working environment of personnel, external environment, assets, operability, maintenance, schedule and cost.

☑ **Verification** shall be performed by all personnel on own work, i.e. self-check. The verification shall be a continuous process aimed at detecting and correcting mistakes at the earliest possible stage.
Main results from engineering work, maintenance and operational activities shall be subject to internal verification, i.e. that qualified personnel verify the work to be executed in accordance with requirements and good craftsmanship.

Work covering **several trades** shall also be subject to **"Interdiscipline checks"**, i.e. the work shall be verified by qualified personnel from all involved trades to check that both the work within the different disciplines and all interfaces are covered in accordance with requirements and good tradesmanship.

☑ **Objective and scope of work** shall be defined for verification activities, including responsibility for Approval/Acceptance of the work, which signifies that the executed work has met its Acceptance Criteria and/or expectations.

☑ Authority requirements for verifications shall be followed.

☑ Formally executed verifications shall be documented

F.2 Controlling the work

Everybody is responsible for the quality of their own work. Therefore, the main principle for quality control is that everyone use check routines for his/her own work. "Right the first time, every time" is the overall quality objective.

Within the new offshore organisation, the Job Leader (Campaign Job Leader or Trade Responsible) represents the team before the company. The Job Leader is therefore accountable for the job. Consequently, the Job Leader is responsible for ensuring that sufficient quality control (QC) is planned, and executed in accordance with a applicable procedures

The OSV and the CSV are accountable for the quality of all jobs performed under their responsibility. They can execute this responsibility by ensuring that the team has performed their QC according to the QCP, or they can order an **independent verification** (see below) for critical jobs with high loss potential.. The OSV can also demand independent verification of campaign jobs when this is necessary for operational reasons. Independent verification does never replace self- which rests with the responsibility of the Job Leader.

Independent verification can also be initiated by the OFM/PM.

F.3 Verification by Independent Party

The independent verification shall be performed by personnel who are not directly involved in the work. This could be other Elf personnel, EAP or contractors. The personnel who are performing the verification shall be sufficiently independent with regard to interests and working methods. If computer programmes are used, other programmes should be used for verification purposes.

A detailed scope of work for the verification shall be prepared by the responsible position. The verification shall be documented by the verificator, describing the verification routine and the findings. Independent verification shall be performed for documents which are critical for safe installation or operation, and which are of a complex nature. Independent (3rd party) verification is required by regulations and codes for some types of engineering documents.

Design Review

A design review is a formal, comprehensive, systematic and documented examination of a design to evaluate the design requirements and the capability of the design to meet these requirements. Failure to meet the requirements shall be identified and solutions shall be proposed.

Design reviews are normally conducted as well prepared meetings, and are documented in minutes of meetings. A Design Review follows an engineering job from initiation through to AFC status. Design Review as a systematic approach is considered to be a thorough verification.

F.4 Audits

Audits are spot-checks done on behalf of management into the quality of a management system or a tool. The audits are measurements on an overall level on system adherence and performed by independent teams of auditors. Note that audits, as executed regarding Work Permits etc., are inspection of the correctness of one issue in a system, and should not as such be referred to as audits.

Authorities execute audits, which are aimed at checking how Elf fulfil the requirements of the Internal Control Regulations, and other relevant regulations. This approach is used by both Norwegian and UK authorities

F.5 Deviations from established requirements

Procedures, specifications and management systems are binding for all Elf personnel and govern all activities that we undertake. To ensure flexibility and possibility for improvement, the system allow application for *Deviations* and reporting of *Non-Conformities*. The terms means that it acceptable to apply for variation to set requirements such as specifications, and that mistakes will be made, but must be reported. In practical life:

a The need for a deviation is detected during the preparation for a job (**Planned deviation**)

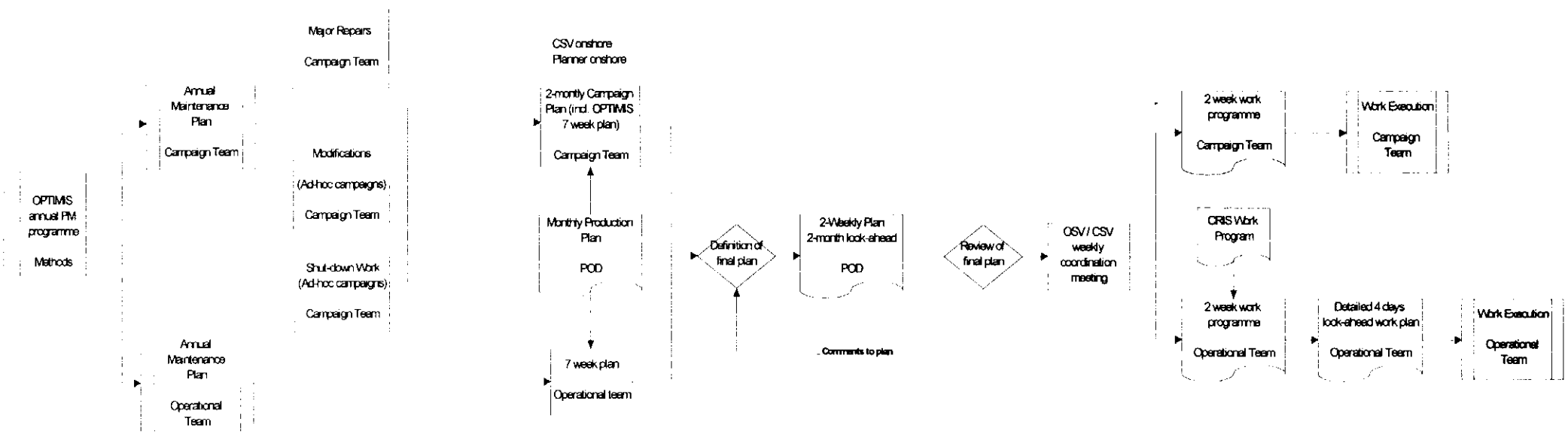
b The non-compliance is found during and after an activity is executed (**Non-Conformity**). It is also a Non-Conformity when the prescribed work systems, methods or equipment do not work as planned.

The requirements laid down in PMM 5 describe how to formally proceed in both these cases regarding the reporting etc., and it is a firm requirement of all our personnel to strictly adhere to this procedure. The PMM 5 contains the forms that shall be used in such cases.

The main idea is to be in control of the situation at any time, and to learn from mistakes. This is a leading idea within all management systems, and is the key to our commitment to the Loss Control Management philosophy. This commitment is measured through the ISRS system through audits.

Appendix G: Planning procedure

P:\QDSWISL\Interventions\Maintenance Planning.abc



INTERNAL MEMO

Subject:	Date:
FUTOP/Emergency organisation/ FRIGG and HEIMDAL. Status report per 13.03.97.	12.03.1997
Action: C.Hansen	From: J.Holtermann/H.Velund
Info: G.W.Syslak, J.I.Pedersen,T.Bergan, A.Ø.Pedersen, L.Robberstad, P.Solhaug, P.Rosenthal, B.Tveterås, T.Norenes, Co-ord HVO F: OFM, PSI, MSI, SSI, PSV, HVO. H: PM, SSI PSV	Ref. No.: 019/311E/FOD/97

The status from the analyses may be summarised as follows:
In connection with FUTOP, the offshore emergency organisation has been evaluated based on the following frame conditions:

1) The "safety level" shall remain equal or be improved.
2) The efficiency (based on future needs) shall remain equal to or better than present situation.
3) All VSKTB`s remain principally unchanged, furtherance is encouraged.
4) The Emergency organisation is build on and shall consist of persons from the normal manning.

The evaluation has been performed as follows:
The present emergency organisation is working well, provided that all effects of changes are evaluated and compensatory measures implemented where needed, the new organisation will function equally well.

Based on the "FUTOP organisation" (as described in IM 311E/FOD/96/125/CH dated 19.12.96), the changes involving positions presently having duties in the emergency organisation has been identified and some proposals for solutions made (IM 311E/97/FOD/003 dated 10.01.97). These screening of potential problem areas and proposals for solutions has been evaluated by involved personnel on the different offshore crews and the HVO. The Emergency Preparedness Analyses for Frigg, DP2, Frøy and Heimdal have been checked to ensure that no inconsistency would be created by the changes. Written feedback from these evaluations has been given.

The proposals to solutions and the topics discussed in the different meetings is documented in MOM`s and IM`s.

Proposals for implementation:

Frigg:

The changes are due to cancellation of some positions and a general reduction of the permanent manning. The structure of the Emergency organisation remains the same except for cancellation of two semi-official teams (Resource & stretcher) where experience have shown that the practical benefit of having these teams at best could be classified as doubtful.

EMCO (and control room team)

The new team consist of:
OFM, SSI, On Site Co-ordinator (OSV) off duty.
The On Site Co-ordinator will, if needed, leave EMCO and function as replacement for the on duty On Site Co-ordinator (see comments made for Emergency Team).
The control room team will, as previously, consist of 4 persons (two on/two off duty), one functioning as log-keeper. In addition the Core Team Leader (CTL) will, as today, muster in CCR (when onboard).
-Additional training needed for two persons as a consequence of FUTOP (ref comments for Emergency Team).

Emergency Team.
12 "semi-professional" members as today.

The difference is that the off duty On Site Co-ordinator will muster in CCR as part of EMCO and go out in the field only if needed.
The dimensioning of the emergency team (12 persons) was based on heavy smoke-diving within the living quarter, requiring intervening from two sides with two independent teams each with their "On Site". As the "process part" in this scenario is non-existing the EMCO could relieve their "process expert" for on site work. Today he muster at QP bridge-landing together with the off duty team. If the off duty team is used, he takes station on TCP2 bridge-landing to guide f. ex. the First Aid team towards the scene of incident.
As these teams are familiar with the platform and do carry radios, the added value of this "guide" is small (the information can be given directly over radio by the On Site Co-ordinator) compared with the gain of better understanding between Emergency Team and EMCO achieved by having persons alternating between those teams. This "model" has been practised during the drills/exercises for nearly two months and seems to work well. A similar "model" was also used on Heimdal for the last two years.

-No specific additional training needed for the complete team as a consequence of FUTOP, but two persons appointed as Operational Supervisors have not previously gone through the advanced FiFi training in Holland and Tactic Training course. They (HW and EØ) must therefore be booked on these courses at earliest opportunity. Until this training is completed the persons appointed today shall function as On Site Co-ordinators. (HT/EØ will be on the same shift so this is OK, but when can HW be trained so IM can be relieved for Heimdal?) The listing of persons trained compared with new work schedules must also be checked, to ensure that it is sufficient no of trained persons on board at any time. Responsibility: Adm. Support Dept.

Rig Office and Radio room.
The functions shall be covered by one Rig Officer (LSV) and one Radio Operator with the off duty Radio Operator acting as common back-up, if and where needed.
The radio officers should be trained in the rig office functions (most of them have previous experience from DP2/CDP1/Heimdal). That way we would have one person responsible for each task (LSV and Radio on duty). Normally one person is able to cope with the work, but we have a (common) back-up that can be used if needed. (Max allowable POB has been reduced from previously 252 to 168 and normal POB is foreseen to be far below 100)

-Training need: All Radio Operators shall have On The Job training in Rig Office, this shall be done offshore. Until this training is completed Admin Officer shall function as back up in Rig Office.

MOB-team.
Boat crew 3 persons (lifeboat commanders / coxswains as today) plus Crane and Marine.

Marine and crane will have the responsibility for launching the boat (changed from "davit launched" to "lowered by crane concept"). They can therefore not participate as "boat crew". Today we have so many with MOB-course that we are able to man the boat.
We could theoretically have a "man overboard situation" where it could be beneficial to utilise both the standby vessels two MOB-boats, the platform MOB-boat and the helicopter for search of missing persons in sea. The probability of this scenario is very small and the normal operation would be to give priority for the helicopter if search is needed. The platforms MOB-boat should than be used as "second line of defence".

-More practice by MOB-crew needed as a consequence of changed concept (no training need created by FUTOP).

Heli-deck team.
3 persons as today (two Fireguards plus Close Proximity Person).

The Heli-mechanic, Crane operator and Marine co-ordinator forms the normal team.
Adm. Off. to act as back-up eventually also Warehouse.

-Training needs: Heli-deck course for "new" persons.

Life boat coxswains
As per today, but only two boats normally manned. The 3rd boat to be manned by campaign team if needed. Some of the personnel (Elf or AMEC) in the campaign team should have coxswain training to achieve operational flexibility.

First Aid team.
Qualification and organisation as per today, number of team-members to be a function of POB according to regulations and internal acceptance criteria.

"Resource" team and "Stretcher" teams
These teams should be cancelled.
The operational experience with these two teams indicates that the need are very marginal. If such assistance should be needed it can be supported by "free hands".
The Frøy/DP2 core team may, as per today (when onboard), be used as a very skilled and valuable back-up force, but we should not muster them as a team before needed.

Heimdal.
The changes are due to cancellation of some positions and a general reduction of the permanent manning.
The structure of the Emergency organisation is recommended changed towards "semi-professional Emergency Team" like on Frigg. The experience from Frigg is good, the combination of voluntary participation, more extensive onshore training, better structured offshore training combined with an "economical benefit for the individual (ulempes-kompasasjon)" have created more enthusiasm for the work.
Provided agreement in the FUTOP "consultations with unions" regarding details on main functions for the positions, invitations for participation in the different teams should be send out early week 12/97.

EMCO (and control room team)
The new team consist of 4 persons plus 2 in CCR.
PM, SSI, one Trade Co-ordinator, log keeper and the normal CCR on duty manning.

Selection of the last two persons must be seen in connection with the selection of personnel for the Emergency Team.
-Training need: Tactic Course for new personnel not having participated in this course previously. (No of persons max = 6, min = 0).

Emergency Team.
8 "semi-professional" members based on voluntary participation. The OSV shall function as On Site co-ordinator.
The main change compared with today is introduction of a "semi-professional" team, thereby compensating a smaller team with better trained personnel, in line with the change made previously on Frigg. The present

Emergency Team and the Technical Team will be merged as recommended during the ongoing work with updating of the Contingency Analyses for Heimdal.

The dimensioning criteria for this team is fire/smoke in a cabin in the living quarter, where heavy smoke-diving may be needed. It is here foreseen that the CCR operator checking an eventual alarm from a cabin (time-delay 3 min max) will be able to at least see what part of the corridor the smoke is coming from. Thereby it would be sufficient to search only part of the corridor, intervening from one side only (East, North or "middle" doors). The final verification of this scenario is not completed yet, further details is described in the Heimdal Contingency Analyses.
The distribution of personnel in the Emergency Team between the production trade and the other trades and between day- and night-shift, cannot be decided before the selection process.

Until the "semi-professional" team is operational (target May/June 97), it is recommended to upkeep to-days structure but the present Emergency team and Technical team should during training and drills operate together under "joint command".
-Training needs: 24 persons on 10 days advanced FiFi training (RISK centre) in Holland plus drills on the platform.

Rig Office and Radio room.
Radio operator with dedicated back-up as per today.

MOB-team.
3 persons plus Crane and Marine as per today ("double functions" with heli-deck is accepted).

Heli-deck team.
No principal changes, some new persons may need training as a consequence of personnel leaving the company.

Life boat coxswains
As per today, but only one boat normally manned. To ensure full coverage at all times with regard to qualified personnel, we recommend to train 3 x 6 persons as coxswains. This also allows for traditional launching of boat no 2 in case of patient on stretcher. The 2nd boat to be manned by campaign team if needed.
Some of the personnel (Elf or AMEC) in the campaign team should have coxswain training to achieve operational flexibility.

First Aid team.
Qualification and organisation as per today, number of team-members to be a function of POB according to regulations and internal acceptance criteria.

J.Holtermann

H.Velund.

CRIS^2

Computerised Reporting and Inspection System

&

Condition and Risk based Inspection System

CRIS Functionality

- Routine Activity Controller:
  - Generating outstanding action lists per location or responsible team/position
- Complaint Database:
  - For reporting of spurious outstanding operational actions, not reported as MR.
- Notes & Experienced Feedback:
  - Attached on any hierarchical level from field to main equipment.

CRIS Functionality

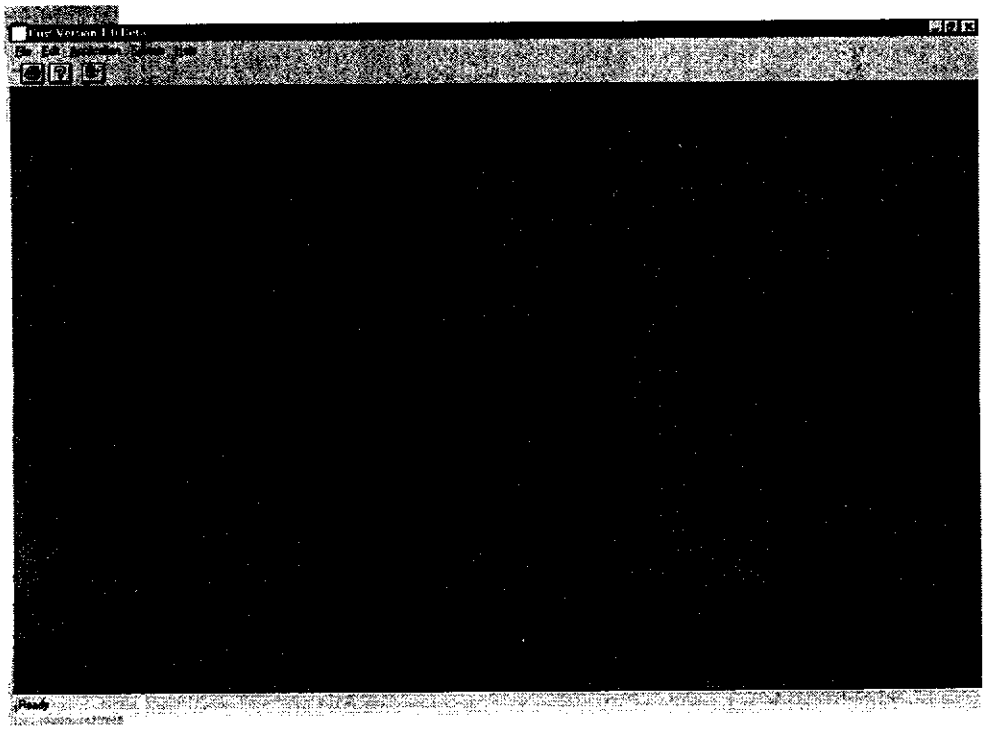
- Document Attachment:
  - Links for documents created in other applications like Word, XL, Digital Pictures/Video, Drawings, etc. may be established to any database record.
- Separate Disk Structure:
  - For handling of reports, templates, procedures, etc. to be established on a combination of local servers and onshore servers.
- OPTIMIS - MS Project Interface
  - Has been developed in Pau to improve the planning functionality, primarily for the Campaign Team.

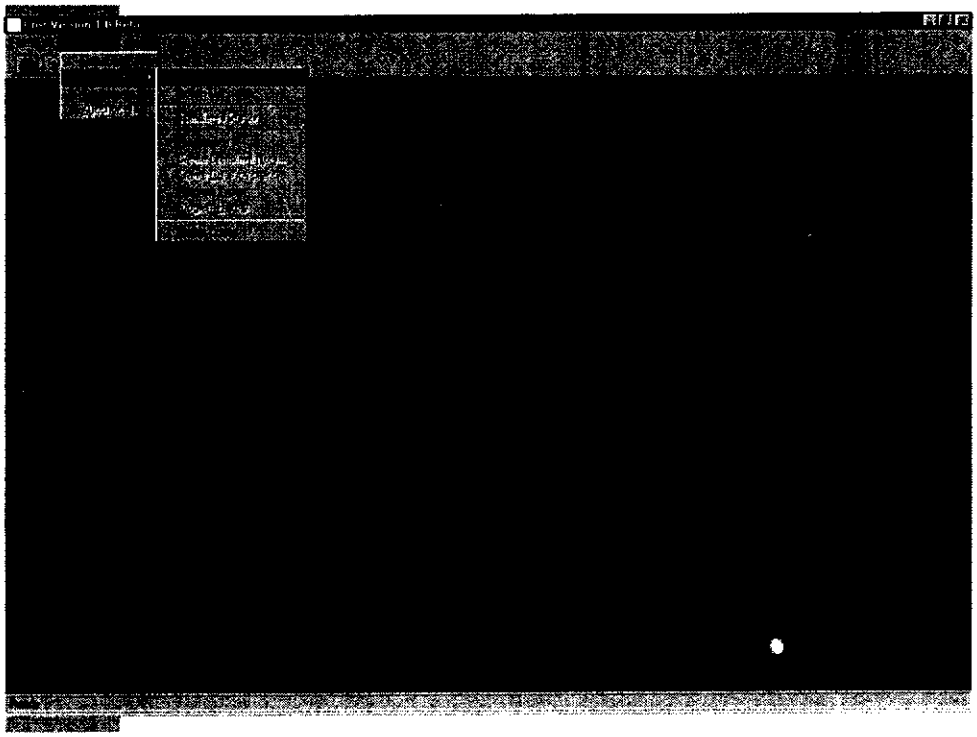
CRIS Principles

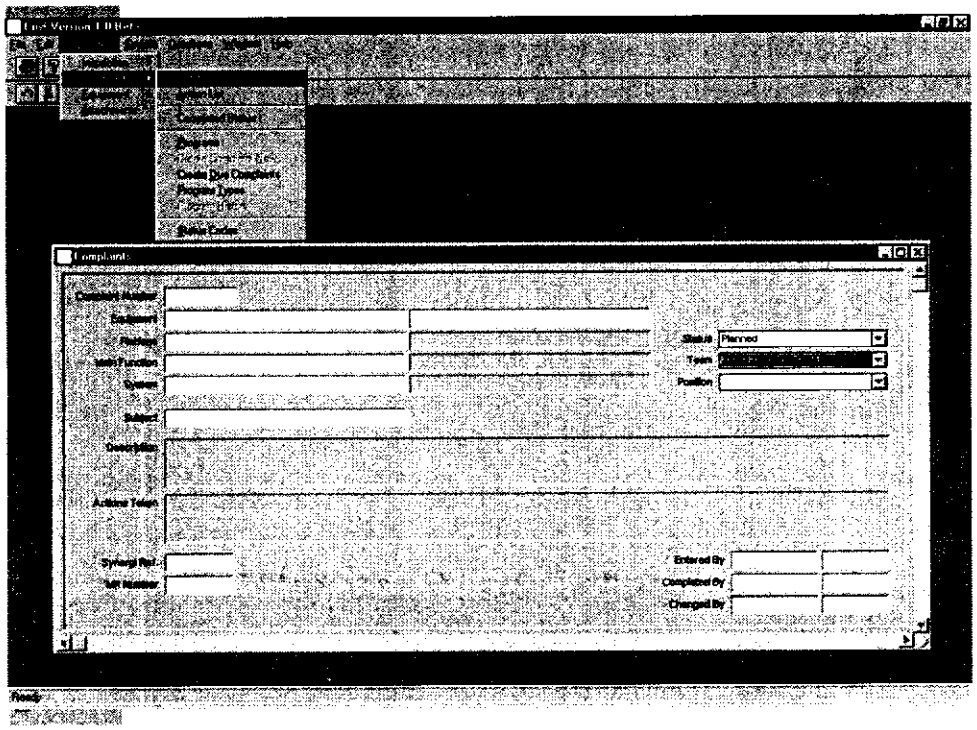
- Access:
  - In line with the new organisational principles, the majority of the users should have Read & Write access.
- Users:
  - Both the Operational Team and the Campaign Team will be given access to CRIS.
  - Complaints will be used only by the Operational Team while waiting for final decision w.r.t. future CMMS.

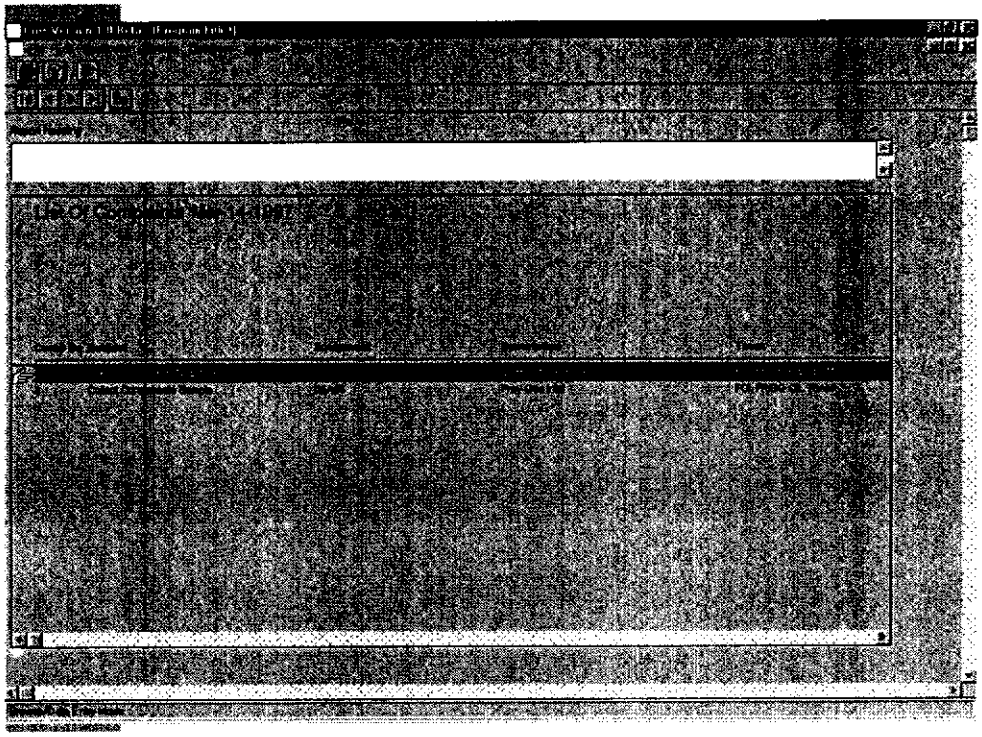
CRIS Principles

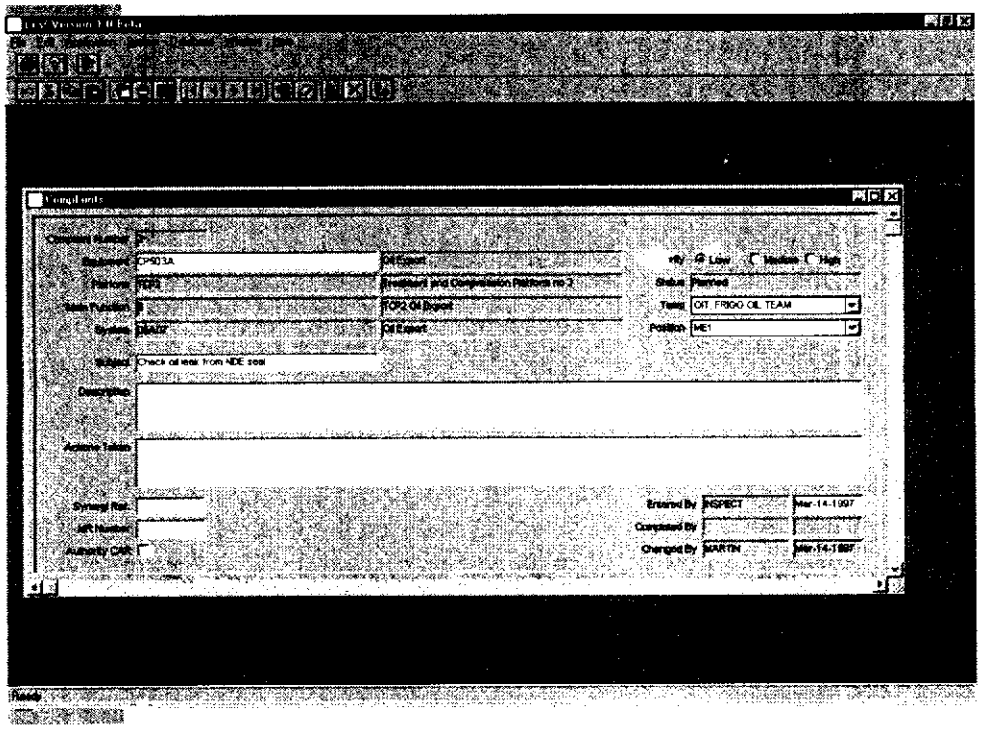
- Retrieval of Information:
  - Retrieval of information from the database will be performed by launching a search based on what ever information you may have available. This will then result in a list of "hits" from where you may do your selection.
- Complexity:
  - The user interface will be kept as simple as possible, with a minimum of fields visible, depending on operation.



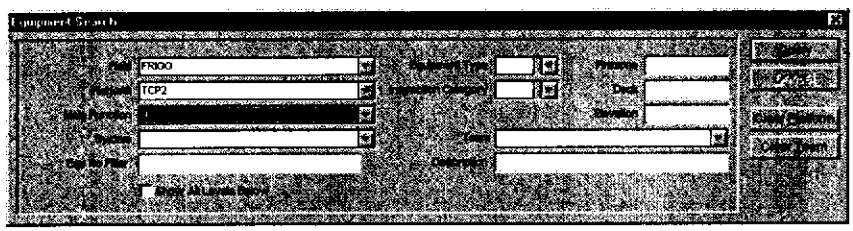


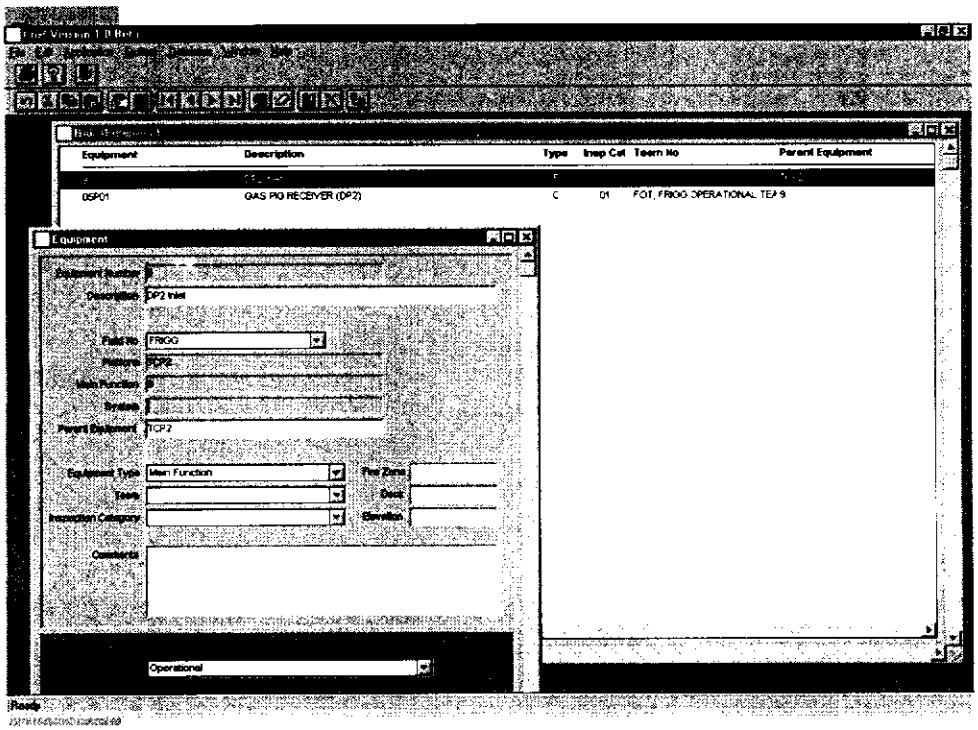

Complaints
Planned

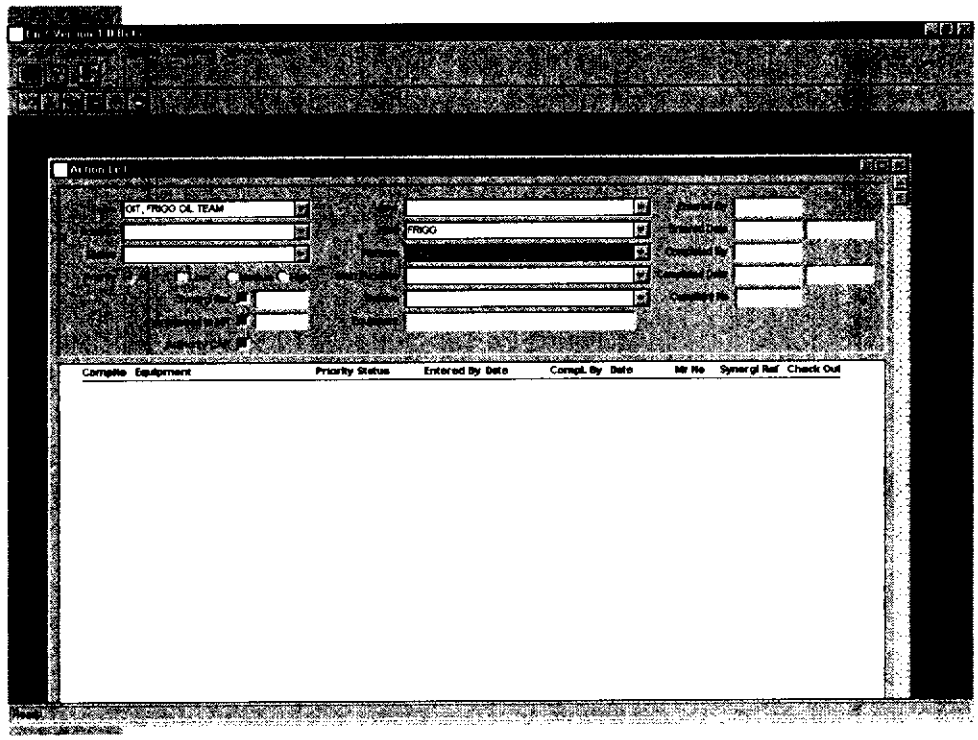


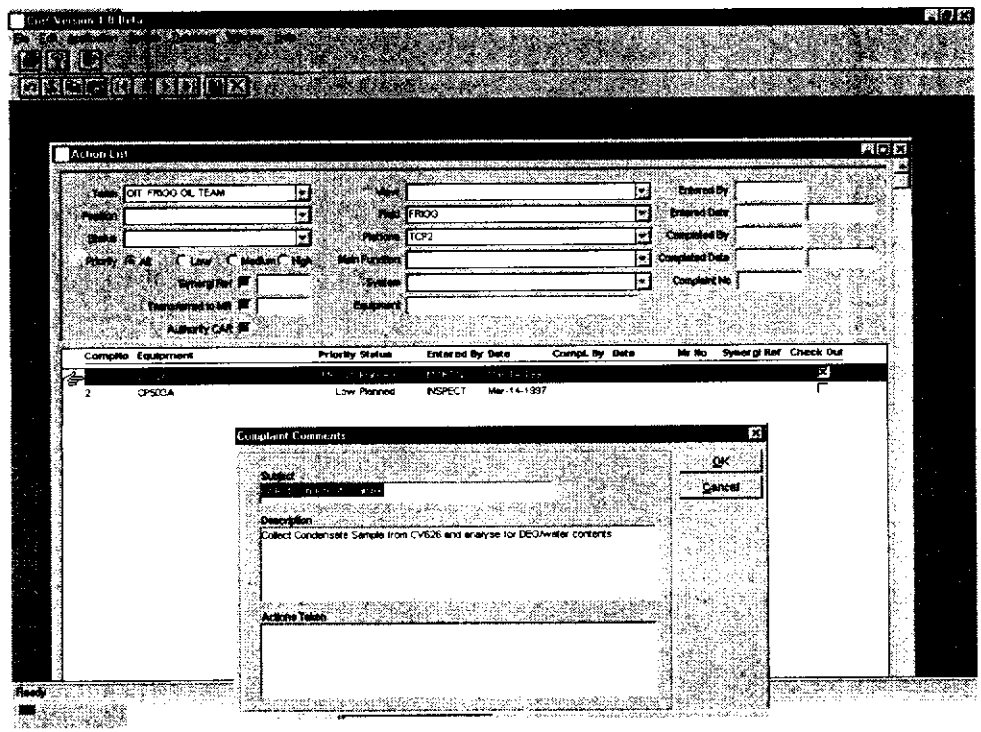


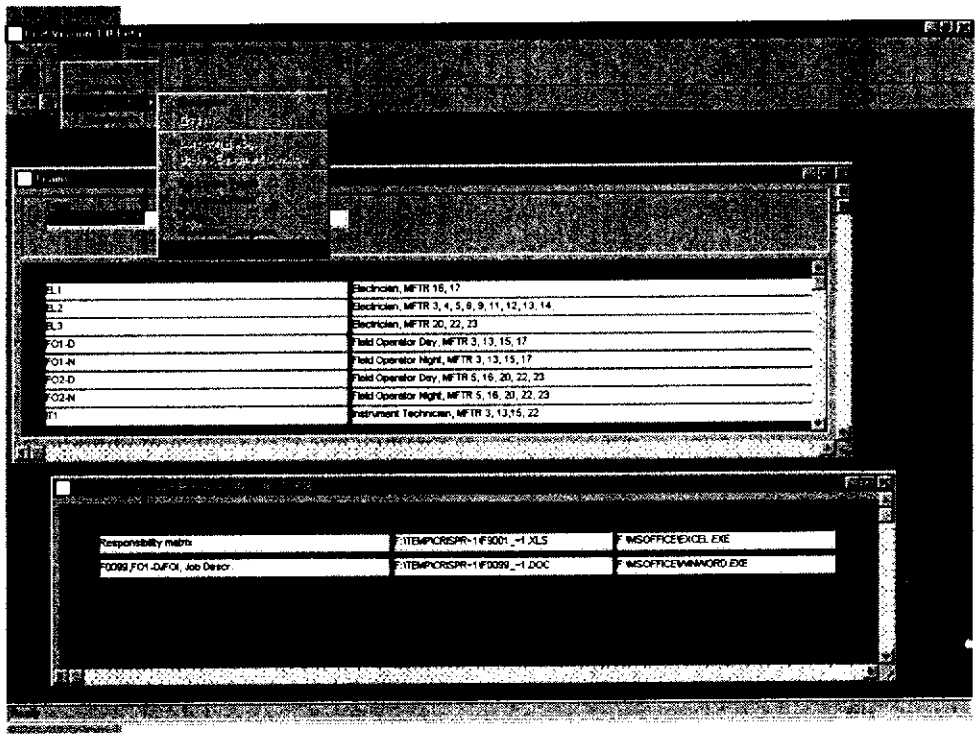
Equipment Search Dialog






Action List
DIT, FROO OIL TEAM
FROO
Complete
Equipment
Priority Status
Entered By Date
Compl. By Date
Mr No
Synergi Ref
Check Out

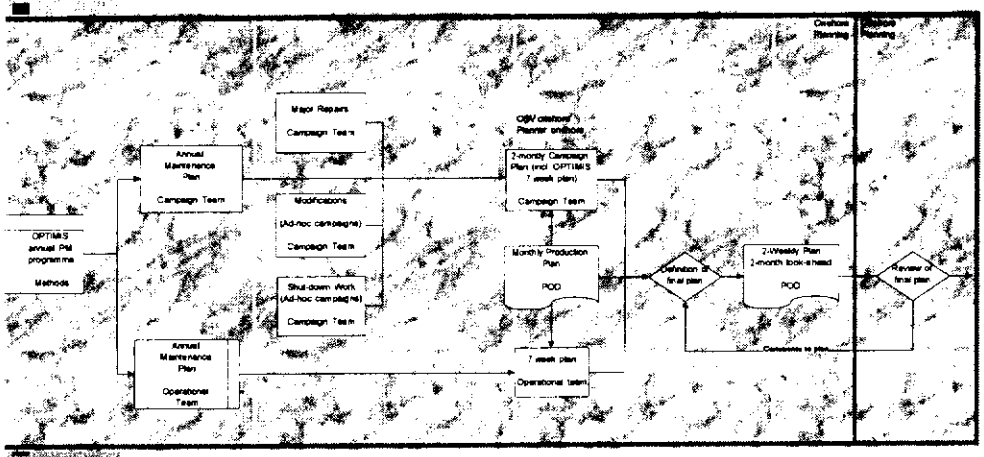

Action List
DIT, FROO OIL TEAM
FROO
TCP2
Complete
Equipment
Priority Status
Entered By Date
Compl. By Date
Mr No
Synergi Ref
Check Out
2
CPSD3A
Low Planned
INSPECT
Mar-14-1997
Complaint Comments
OK
Cancel
Subject
Description
Collect Condensate Sample from CV626 and analyse for DEG/water contents
Actions Taken
Ready



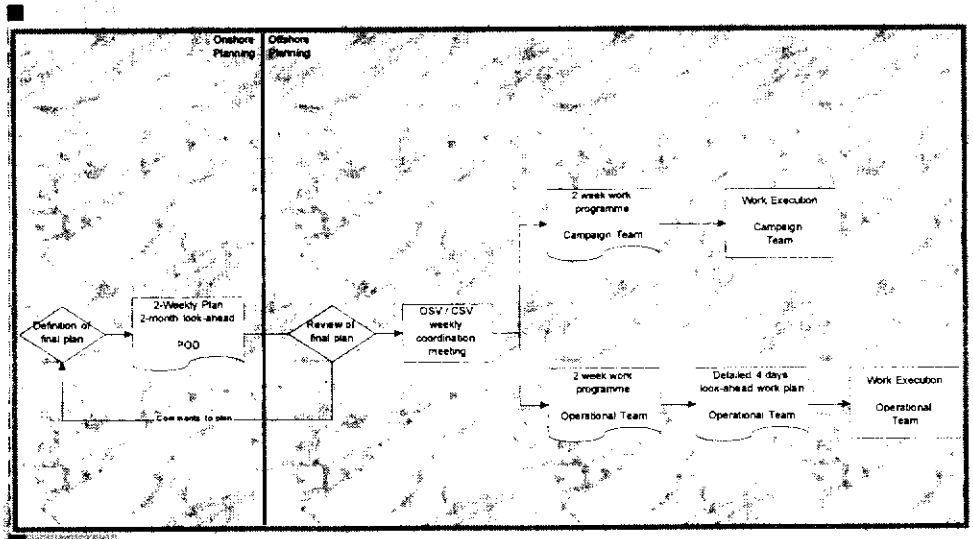
Planning and Prioritising

The Planning Process
for
Frigg & Heimdal

The Onshore Planning Process



The Offshore Planning Process



Co-ordination Meetings

- Weekly
  - Onshore inter department meeting for co-ordination of Production Plans, Work Program and Logistic.
  - Offshore co-ordination meeting between CSV and OSV to harmonise 2 weekly work program.
- Daily
  - Onshore/offshore telephone meeting every morning.
  - CSV/OSV morning meeting for final adjustment of plans and prepare next days work permits.

Co-ordination Meetings

- Daily (cont.)
  - Main Function Team morning meeting for final adjustment of work plan.
  - Combined Daily Status Meeting and Work Permit Meeting every evening from 17:00-18:00.
    (OFM/SSI/OSV/CSV)
    (PM/SSI/OSV/CSV, when onboard)

Main Function Team Planning

- Input:
  - 2 week work program prepared at the weekly co-ordination meeting between OSV and CSV.
  - Action list and 2 weeks look-ahead from CRIS containing all outstanding Complaints and scheduled routine activities.
- Result:
  - 4 days detailed look-ahead work plan per team and position. Adjusted each morning by the teams.

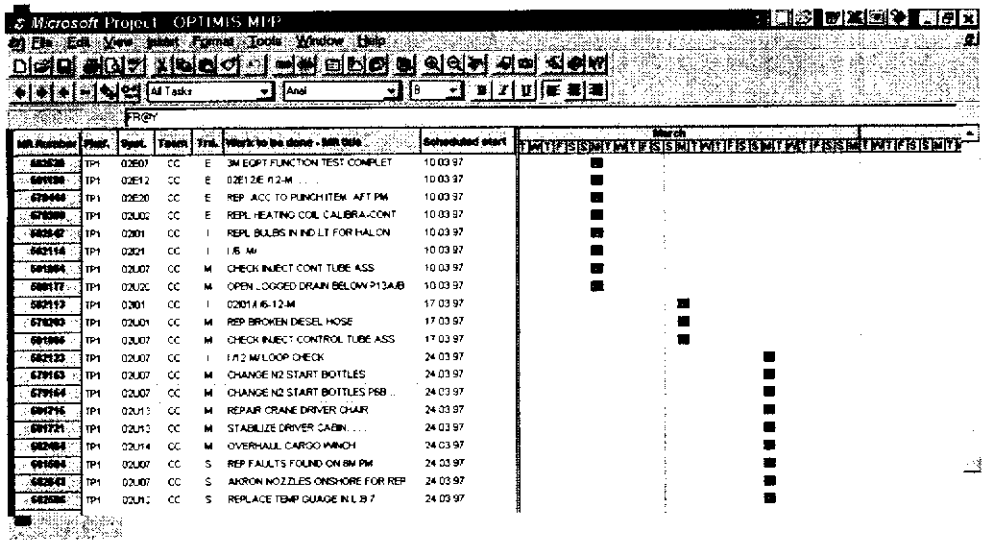
Heimdal Campaign Team

- The 2 week work program for HCT will be prepared by the CSV onshore.
- The OSV on heimdal will act on behalf of the CSV when he is on Frigg.
  The plan prepared by the CSV onshore, will be printed by the OSV and handed over to the Campaign Job Leader who will be responsible for execution of the work.

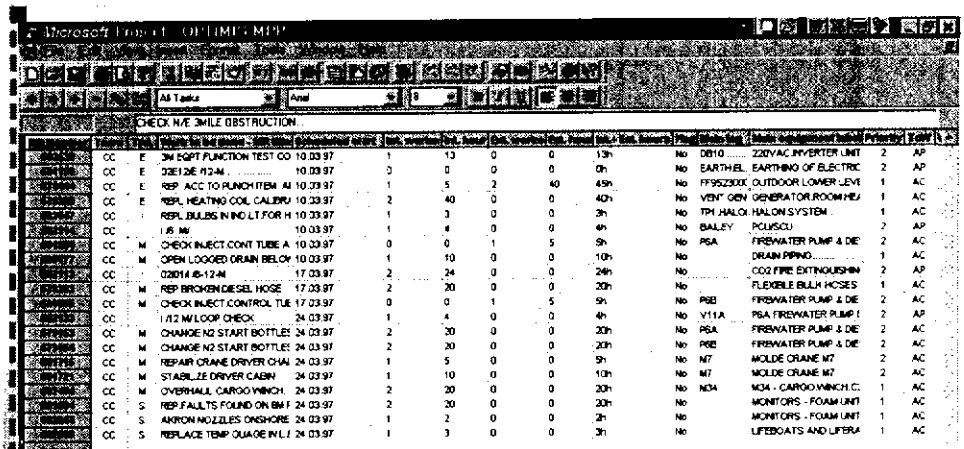
Planning and Prioritising

OPTIMIS - MS Project Interface

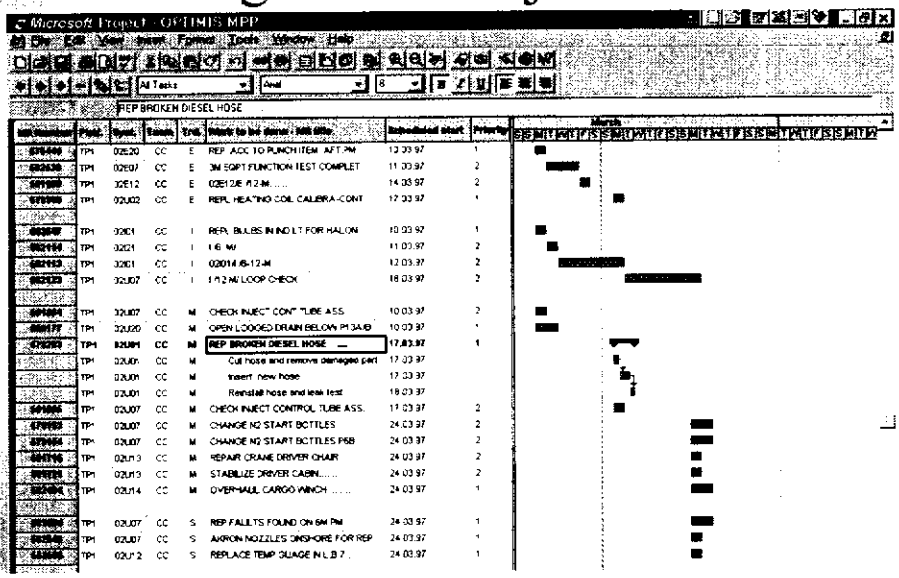
Transfer from MIS to MS Project

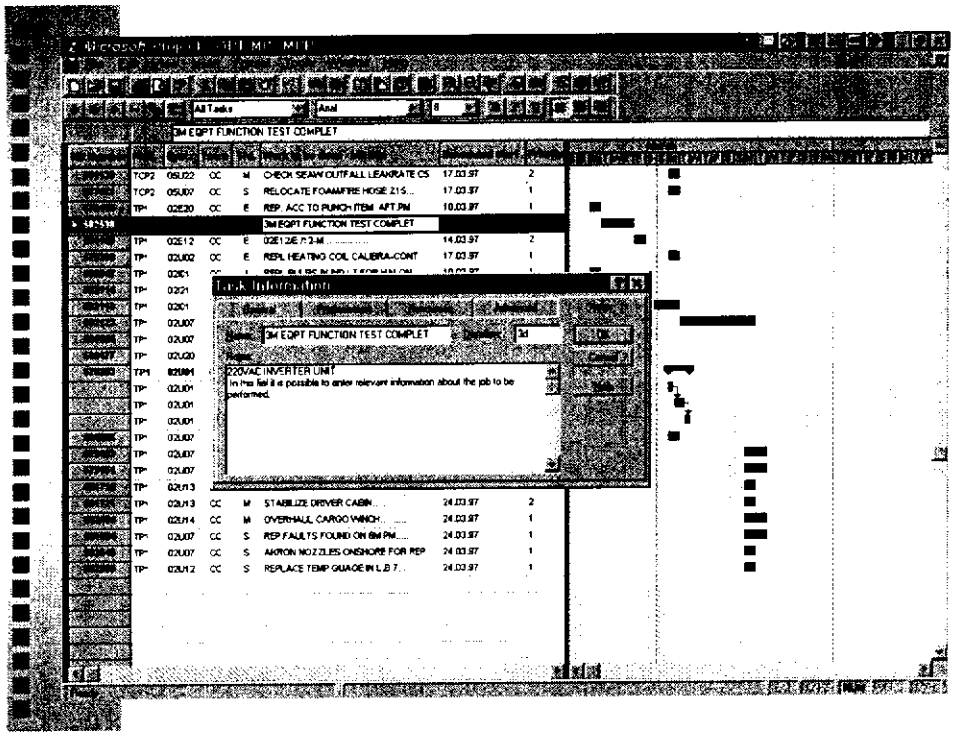


Additional Information from MIS



Planning in MS Project





Summary

- CRIS
  - Database for logging and follow-up of operational activities.
  - To be used as basis for hand-over log.
  - Database for logging of equipment related experienced feedback.
  - Contains new inspection module.
  - Document Linking Capability
- Interface between OPTIMIS and MS Project for improved planning.

Manualer og Prosedyrer for Produksjon og Vedlikehold

- Omorganiseringen har ført til et behov for å samle informasjon som tidligere var delt mellom faggruppene
- Identifisert behov for å samle løsbladsystemer som sjekklister, etc.
- Man har hatt ønske om å samordne oppbyggningen av prosedyreverket mellom Frigg og Heimdal

"Production handbook"

- Ny oppdatering av Production Handbook
- Mål:
  - Kombinere operasjonsprosedyrer og stående instrukser
  - Forenkle prosedyrene
  - Skrelle vekk uaktuelt stoff
  - Engelsk og Norsk versjon

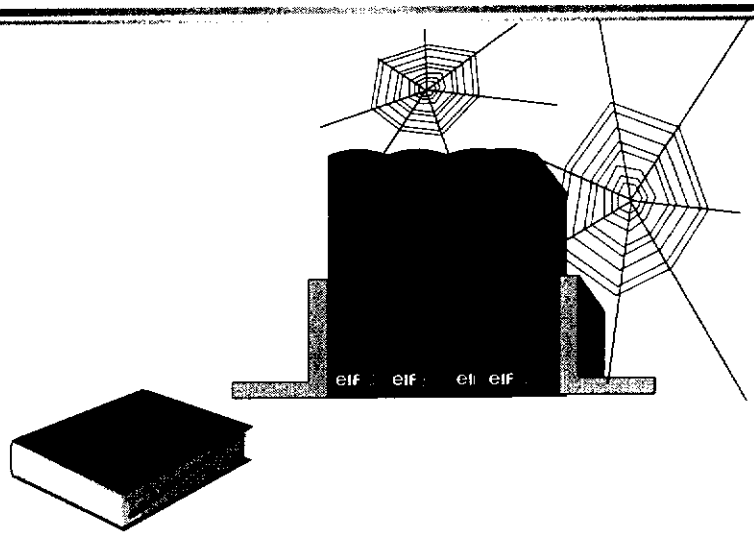
Heimdal, situasjon før:

- *HMP1 1st degree maintenance manual,* ulike manualer for produksjons- og vedlikeholds avdelingene.
- HMP1 Standing Instructions som egen prosedyremanual.
- Sjekklister, etc. oppbevart på ulike steder.

Frigg, situasjon før:

- TCP2 Operations manual, vol 11
  - Standing Instructions [redacted]
  - Lille Frigg Operational Procedures
  - Nomination Handbook
  - Frøy Operating Procedures [redacted]
- Sjekklister etc.
- Frigg 1st Degree Maintenance Manuals

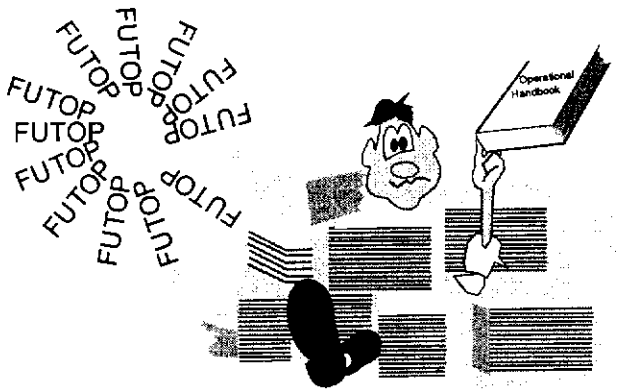
Situasjonen før



Resultat

- Ny bok utgitt med tittel "Frigg Central Complex Production Handbook"
- To deler
  - Operating procedures
  - Standing Instructions
- Status pr. idag:
  - Oppdatert, kun relevant stoff
  - Ikke oversatt til Norsk ☹
  - Noen prosedyrer mangler fortsatt

Status etter FUTOP



Ny bok igjen:
"Operational Handbook"

Operational Handbook

- Part A
  - General Part
- Part B
  - Main Function Procedures

- Part A inneholder i grove trekk innholdet i den oppdaterte Production handbook
- Part B inneholder beskrivelse av hver hovedfunksjon og tilhørende prosedyrer for alle 4 faggrupper

General part

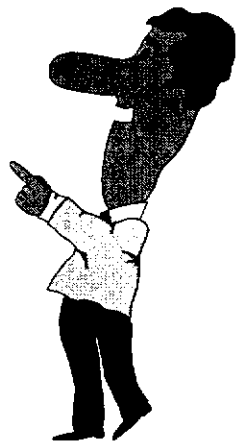
- General procedures (principles and strategy)
- Process Procedures
- Pipeline and Pigging Procedures
- Safety System Procedures (BDV's,ESDV's)
- Operational 1. Line Maintenance
- Position Descriptions and Operational checklists

Main Function Procedures

- Beskrivelse av "Main Functions"
- Prosedyrer som bare gjelder vedkommende funksjon, for alle faggruppene inklusive "Production".

Oppfordring

- Bruk håndboken flittig
- Gi beskjed om oppdateringsbehov
- Bidra med forslag til forbedringer



FRIGG OPERATIONAL HANDBOOK

PART A
GENERAL PART

PART B
MAIN FUNCTION PROCEDURES

FRIGG OPERATIONAL HANDBOOK

0. ADMINISTRATION

PART A
FRIGG - GENERAL PART

1. FRIGG GENERAL PROCEDURES
2. FRIGG PROCESS PROCEDURES
3. FRIGG PIPE LINE AND PIGGING PROCEDURES
4. FRIGG SAFETY PROCEDURES
5. FRIGG OPERATIONAL 1.ST LINE MAINTENANCE
6. POSITION DESCRIPTION, JOB DESCRIPTION AND RESPONSIBILITY MATRIX.
7. FRIGG OPERATIONAL CHECK LISTS

FRIGG OPERATIONAL HANDBOOK

PART B
FRIGG - MAIN FUNCTION PROCEDURES

0. **ADMINISTRATION**

PART A
FRIGG - GENERAL PART

1. **FRIGG GENERAL PROCEDURES**
   - 1.1 Production and Maintenance Principles for Frigg and Heimdal
   - 1.2 Main Functions with OPTIMIS systems
   - 1.3 Production strategy and priorities and wells

2. **FRIGG PROCESS PROCEDURES**
   - 2.1 - Sequence operated pumps control
   - 2.2 - Hydratecurves
   - 2.3 - Use of Texteam pumps for methanol injection
   - 2.4 - Chemical injection

3. **FRIGG PIPELINE AND PIGGING PROCEDURES**
   - 3.1 - Pig operations
   - 3.2 - Flushing and cleaning of Pig receiver M28
   - 3.3 - Emergency blowdown of pipelines
   - 3.4 - Pressure drop calculation and pipeline data

4. **FRIGG SAFETY PROCEDURES**
   - 4.1 PSV's
   - 4.2 BDV's
     - 4.2.2 - Safe disposition of BDV's
   - 4.3 ESDV's
     - 4.3.2 - Precaution when opening ESDV's
     - 4.3.3 - Safe disposition of ESDV's
     - 4.3.4 - ESDV's with common hydraulic back-up , precautions
   - 4.4 Pipeline ESDV's
     - 4.4.1 - Closing and re-opening of ESDV's in connection with and ESD
     - 4.4.2 - Maintenance of pipeline ESDV's
     - 4.4.3 - Inspection and testing of pipeline ESDV's
   - 4.5 General oper. guidelines to reduce fuel gas, flare & vent/ limit the emission of CO2.
     - 4.5.1 - Decompression of stand-by systems
     - 4.5.2 - Decompression of systems temporarily not in use
   - 4.6 IIS testing and unexpected shut downs
     - 4.6.1 IIS testing
     - 4.6.2 Reporting of unexpected shut downs

5. **FRIGG OPERATIONAL 1.ST. LINE MAINTENANCE**

6. **POSITION DESCRIPTION, JOB DESCRIPTION AND RESPONSIBILITY MATRIX**

7. **FRIGG OPERATIONAL CHECK LISTS PR. POSITION**
   - 7.1 Production
   - 7.2 Mechanical
   - 7.3 Electrical
   - 7.4 Instruments

FRIGG - FUNCTION PROCEDURES

FUNCTION 22 Process

Operation of the Linde unit and Sulzer compressor	5.2.1
Sump caisson on	5.3.1
Normal operation/all relief system available	7.1.1
TP1 LT vent or TCP2 LT vent not available	7.1.2
Reporting of consumed, vented and flared gas	7.2
Flare tip ignition	7.3.1
Action on pilot failure alarm	7.3.2
Shutdown (routine)	7.3.3
Emergency (Piezo) ignition	7.3.4
Emergency shutdown	7.3.5
Setting to work	7.3.6

FUNCTION 23 Safety and Control system

Inhibitation of process and safety	
Isolation and de-isolation procedure	6.3.1
Operation of portable gas detectors	6.3.2
Routine checking of fire and gas overview display	6.3.3

FUNCTION 24 Common

FUNCTION 25 FCC General Management and Safety

HEIMDAL OPERATIONAL HANDBOOK

PART A
GENERAL PART

PART B
MAIN FUNCTION PROCEDURES

HEIMDAL OPERATIONAL HANDBOOK

0. ADMINISTRATION

PART A
HEIMDAL - GENERAL PART

1. HEIMDAL GENERAL PROCEDURES
2. HEIMDAL PROCESS PROCEDURES
3. HEIMDAL PIPE LINE AND PIGGING PROCEDURES
4. HEIMDAL SAFETY PROCEDURES
5. HEIMDAL OPERATIONAL 1.ST LINE MAINTENANCE
6. POSITION DESCRIPTION, JOB DESCRIPTION AND RESPONSIBILITY MATRIX.
7. HEIMDAL OPERATIONAL CHECK LISTS

HEIMDAL OPERATIONAL HANDBOOK

PART B
HEIMDAL MAIN FUNCTION PROCEDURES

0. **ADMINISTRATION**

PART A
HEIMDAL - GENERAL PART

1 **HEIMDAL GENERAL PROCEDURES**
- 1.1 Production and Maintenance Principles for Frigg and Heimdal
- 1.2 Main Functions with OPTIMIS systems

2. **HEIMDAL PROCESS PROCEDURES**

3. **HEIMDAL PIPELINE AND PIGGING PROCEDURES**

4. **HEIMDAL SAFETY PROCEDURES**
- 4.1 PSV's
  - 4.1.1 - Permutation of PSV's
- 4.2 BDV's
  - 4.2.1 - Testing of BDV's
- 4.3 ESDV's
  - 4.3.1 - ESDV Function Test

5. **HEIMDAL OPERATIONAL 1.ST. LINE MAINTENANCE**
- 5.1 Electrical greasing program

6. **POSITION DESCRIPTION, JOB DESCRIPTION AND RESPONSIBILITY MATRIX**

7. **HEIMDAL OPERATIONAL CHECK LISTS PR POSITION**
- 7.1 Production
- 7.2 Mechanical
- 7.3 Electrical
- 7.4 Instruments

HEIMDAL - MAIN FUNCTION PROCEDURES

FUNCTION 28 HMP1 Process

28.1 General
28.2 ORIS references

28.3 6 monthly IIS test on production wells
28.4 12 monthly IIS test on production wells
28.5 6 monthly IIS test on injection well A4/J
28.6 Wellhead Maintenance, 6 monthly
28.7 Start, running and change over of Main Gas Compressor
28.8 Abn. Stop of Main Gas Compr. turbine and/or Main Gas Compr. YD/KB 301 A/B
28.9 Running of Equipment permutation
28.10 Low production rates

Condensate system

28.11 Checking of leak through PSV
28.12 Operation of Condensate pipeline pumps, GX 405/404 A/B

Platform shutdown and process isolation system

28.13 Function test of Pipeline ESDV's
28.14 Work on in-service hydraulically operated ESD valves (Wellheads excepted)
28.15 Safety and shutdown system testing

Operational 1st line maintenance

28.21 Area 3, Weather deck North M40
28.22 Area 4, Weather deck North M30 west M40 east
28.23 Area 5, Weather deck M30 M40 south
28.24 Area 7, Mezzanine deck M40
28.25 Area 8, Mezzanine deck M40 south east
28.26 Area 9, Mezzanine deck M40 south west
28.27 Area 10, Mezzanine deck M30 south compression room
28.28 Area 12, Main deck M30 centre KB 401 A/B
28.29 Area 13, Main deck M30, south KB 201 A/B
28.30 Area 14, Main deck M40, north
28.31 Area 15, Main deck M40, south
28.32 Area 16, M50 north
28.33 Area 17, M60 south
28.34 Area 18, Cellar deck C11, Condensate export
28.35 Area 19, Cellar deck south C12 and DS 171

FUNCTION 29 HMP1 Process Utility

29.1 General
29.2 ORIS references

29.3 Recording and reduction of gas to Fuel, Flare & Vent
29.4 General oper. guidelines to reduce fuel gas, flare & vent/ limit the emission of CO2 to atmos.

Operational 1st line maintenance

29.21 Area 1, Weather deck M30, north
29.22 Area 2, Weather deck M30, east
29.23 Area 6, Mezzanine deck M30, north
29.24 Area 11, Main deck M30, north
29.25 Area 20, Cellar deck C08 and C10
29.26 Area 21, Cellar deck C07 and C09
29.27 Area 22, Cellar deck cooling water and Comp. Air C01.C05 and C06

FUNCTION 30 HMP1 Utility

30.1 General
30.2 ORIS references

FUNCTION 31 Power Generation and Distribution

31.1 General
31.2 ORIS references

31.3 Power generation and distribution

FUNCTION 32 HMP1 Lifting Appliances

32.1 General
32.2 ORIS references

FUNCTION 33 HMP1 Fi-Fi and Lifes Saving

33.1 General
33.2 ORIS references

FUNCTION 34 HMP1 Metering, Sampling and Laboratory

34.1 General
34.2 ORIS references

34.3 Gas metering flow rate limits and use of spare tube
34.4 On line Gas chromatographs

Operational 1st line maintenance

34.5 Metering for Fuel and Export Gas and Condensate

FUNCTION 35 HMP1 Common Utility

35.1 General
35.2 ORIS references

FUNCTION 36 HMP1 Control Function and Telecomm.

36.1 General
36.2 ORIS references

36.3 Gas detector calibration after deluge release or deck wash
36.4 Archival trend Diskette changing, Oil spill telex, VHF
36.5 Starting BCS "Archival trend" function
36.6 Starting BCS "Dotted trend" function

FUNCTION 37 HMP1 Primary and Secondary Structure

37.1 General
37.2 ORIS references

REVISION OF AFFECTED DOCUMENTATION

- Safety Case - update issued to HSE
- Quality Manuals - FOD QM under update
- PMM/COP-all changes identified - issue by 5.4.97
- Operating / Maintenance philosophy under issue
- Operation Manual- remain as is in general - Vol 11 will be a Production handbook
- Contingency Manuals - principles remain as is minor changes to roles / responsibilities
- Long term - Reengineering of ELF doc. structure

PLATFORM MANAGEMENT MANUAL

- PMM 0.0-0.5 will be simplified and put together
- PMM 0.6 major update and simplification
- PMM 0.7, 0.8 major update based on new responsibilities and work principles
- PMM 0.10/0.12 to be incorp. in PMM 5
- PMM 0.11 avoid duplication with cont. man

PLATFORM MANAGEMENT MANUAL

Major changes

- PMM 5 incorporate PMM 0.10 / 0.12
- PMM 9 new responsibilities, new form and flowchart
- PMM 12 incorporate PMM 11
- PMM 15 update following audit will not be ready for FUTOP implementation
- PMM 19 following recent audit

Minor changes

- PMM 1,2,3,6,7,10,13,14,16,25,26,28,29,30,31,32

No changes

- PMM 17,18,27

Cancel: PMM 24,11

COMMON OPERATIONAL PROCEDURES
NECESSARY REVISIONS

Major revisions

- COP 0.1 - 0.6 Merged and simplified
- COP 21, FOP 8 major update following audit

Minor update

- COP 4, 5, 6, 7, 8, 9, 10, 12, FOP 5, 9,11,12, HOP 2

No need for change

- COP 1,2,3, 11, 13, 14, 15, 16, 20, 22,23,24, FOP 6, 10, HOP 1,3,6

Cancel

- COP 18, FOP 2, 4, HOP 5

P:\FutOp\Responsibility definitions\Scenario responsibility\Heimdal PCV - Repair scenario - actions.abc

SCENARIO:
Heimdal PCV has failed.
Urgent repair needed.
PROBLEM:
PACK BOX HAVE FAILED

Leak occurred
Leak detected
Leak confirmed

Inform control room → FO for situation report → CCR decide to shut down → CCR initiate controlled shutdown → CCR inform OSV

Personnel on the platform or Safety System

CCR

- OSV: Situation report onshore POD
- Trade resp.: Ruh Synergy
- CCR: Inform Dyce
- CCR: Change nomination
- CCR: Report to OGA
- Process shutdown complete
- CCR: Contact Main Function Trade Resp. (Instrument) who becomes Job Leader

The Job Leader to organise team for preparation & repair

OSV: Plan & Prioritise resource allocation during shutdown

OSV decide, in co-operation with Job Leader and PM how to prioritize the job based on criticality for safety, operation and availability of spares.
OSV to ensure that other pending jobs are done during shut-down.

- Job Leader initiating onshore check delivery time for new valve / spares
- Job Leader check availability of spares (security stock)
- Job Leader check availability of special tools (if required)

Onshore to ensure availability of all necessary spares / tools.
Job Leder responsible for above activities.
He may use other Trade Responsibles for help during the co-ordination of spares / tools.

Vendor applies for disp.

- Repair man from Vendor (When relevant)
- Onshore trade resp.: Check availability of personnel
- Job Leader to ensure preparation of: - MR - WP - SJA
- Job Leader: Gather repair team

Job starts under supervision of Job Leader → Isolation-N2 Flushing → Remove cladding / insulation → Disconnect air supply → Rigging of lift. Appl. etc. → Open valve for diagnosis → Trouble shooting What went wrong → Investigate pack box

Status: Confirmation of problem Pack box failed

Onshore

- Order personnel → Organize Safety / Training
- Order Spare Parts and arrange logistics → Ordering follow-up; Warehouse onshore: Organize transport of goods Arrival notice to: - offshore

Transport of parts: Helicopter Boat

The Job Leader, in co-operatin with OSV decide how to continue.

- Job Leader: Check / order spares (MWR) → Job Leader: Check arriving tools and parts → **STATUS: Ready for final repair**
- Offshore Warehouse: Coordinate goods on the platform

Onshore actions done when relevant / necessary

Change/repair damaged parts Reassemble

Job Leader responsible for all below activities, but may use other Trade Resps.

Job Leader: Function test of valve
- Check correct function during operation
- Function check/calibr. valve
- Reporting Tech. Doc.

De-isolation → Trade Reponsible (FO) to verify removal of blinding → Leak Test: Job Leader: Test Valve for Leaking → Approval for Start Up: Job Leader: Inform OSV & CCR that function is ready for start-up. CCR approves start-up. OSV to be informed. Job Leader and CCR: Sign off Work Permit → CCR: Start of function → CCR: Report to OGA when start-up; CCR: Report to Dyce when start-up

Job Leader responsible for signing out Maintenance Request
Vendor report
Experience feed-back

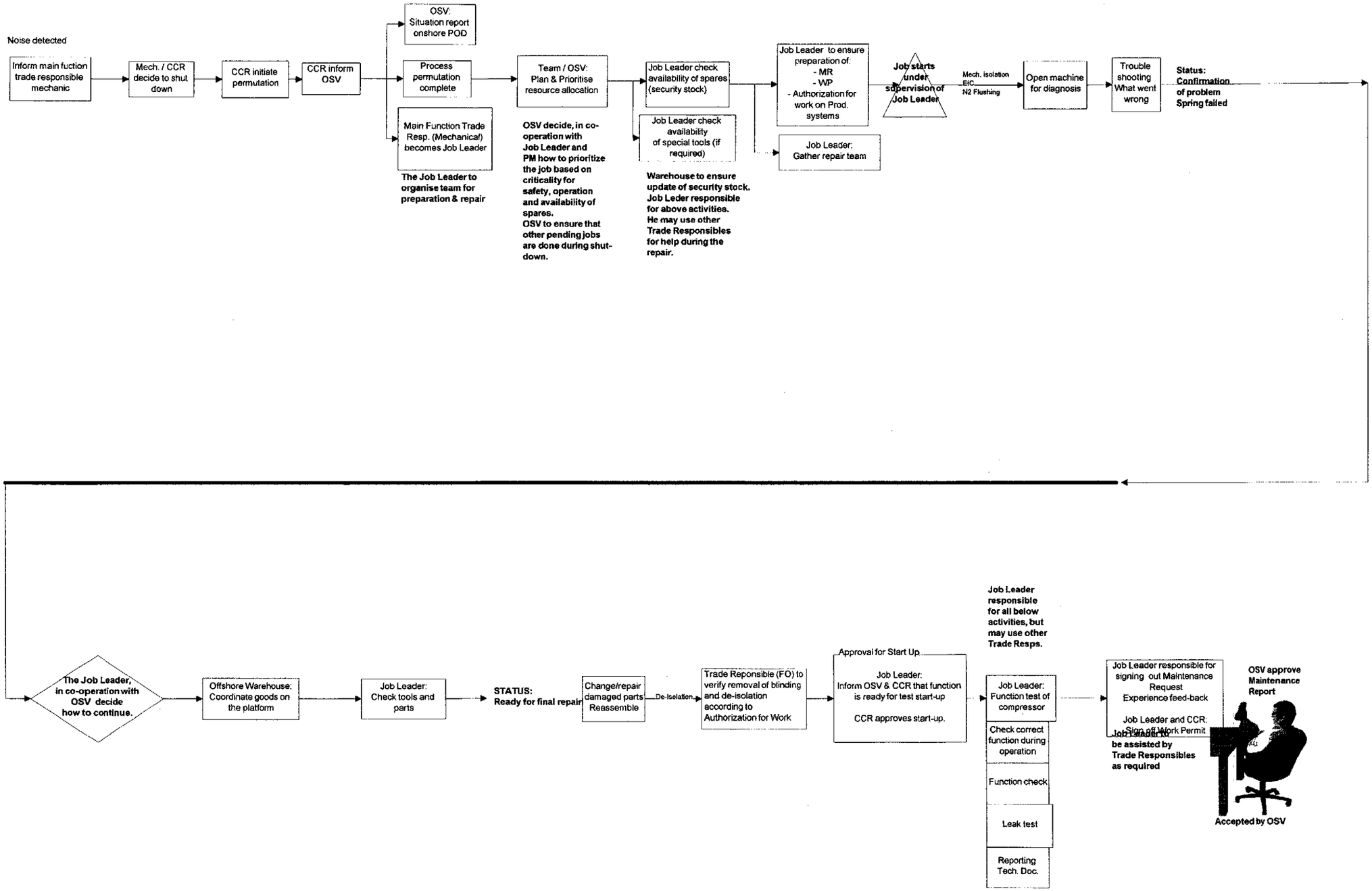
Job Leader to be assisted by Trade Responsibles as required

OSV approve Maintenance Report

Accepted by OSV

P:\FutOp\Responsibility definitions\Scenario responsibility\Heimdal KB401A - Repair scenario - actions.abc

SCENARIO:
KB 401 A, Heimdal Residual Gas Compressor has failed.
PROBLEM:
Disch. valve spring has failed



P:\FutOp\Responsibility definitions\Scenaria responsibility\Heimdal Repair scenario - 2GX501.abc

SCENARIO:
Shut Down of 2GX501A, Sea Water Winning Pump.
PROBLEM:
BLOWN TRAFO WINDING

Pump tripped

CCR inform Mech. or Electrical trade resp.

Stand by pump 2GX501B starts

El. trade resp. check trip indication

CCR inform OSV

OSV: Situation report onshore POD

Main Function Trade Resp. (El.) Becomes Job Leader

The Job Leader to organise team for preparation & repair

Operational team: Plan & Prioritise resource allocation during trouble-shooting

OSV decide, in co-operation with Job Leader and PM how to prioritize the job based on criticality for safety, operation and availability of spares.

Job Leader check availability of spares (security stock) and status on spare pump

Job Leader check availability of special tools (if required)

Onshore to ensure availability of all necessary spares / tools. Job Leder responsible for above activities. He may use other Trade Responsibles for help during the co-ordination of spares / tools.

Job Leader to ensure preparation of:
- MR
- WP

Job Leader: Gather repair team

Perform electrical isolation EtC

Job starts under supervision of Job Leader

Disconnect electrical / instrument / mechanical

Open transformer for check

Status: Confirmation blown winding on transformer

The OSV, in co-operatin with CSV decide how to continue.

Replacement and pulling of pump to be performed by Campaign Team

CSV onshore: Order personnel (FRAMO)

CSV Onshore: Order Spare Parts and arrange logistics

Onshore Planning Phase

Organize Safety / Training

Ordering follow-up

Warehouse onshore: Organize transp. of goods Arrival notice to:
- offshore

Onshore actions done when relevant / necessary

Transport of parts

Helicopter Boat

Job Leader: Check arriving tools and parts

Offshore Warehouse: Coordinate goods on the platform

STATUS: Ready for final repair

Pull pump and replace transformer Reassemble

Approval for Start Up

Job Leader: Inform OSV & CCR that function is ready for start-up CCR approves start-up. OSV to be informed

CCR: Start of repaired pump

Job Leader responsible for all below activities, but may use other Trade Resps.

Job Leader: Function test of pump

Check correct function during operation

Reporting Tech. Doc.

Job Leader responsible for signing out Maintenance Request Vendor report Experience feed-back

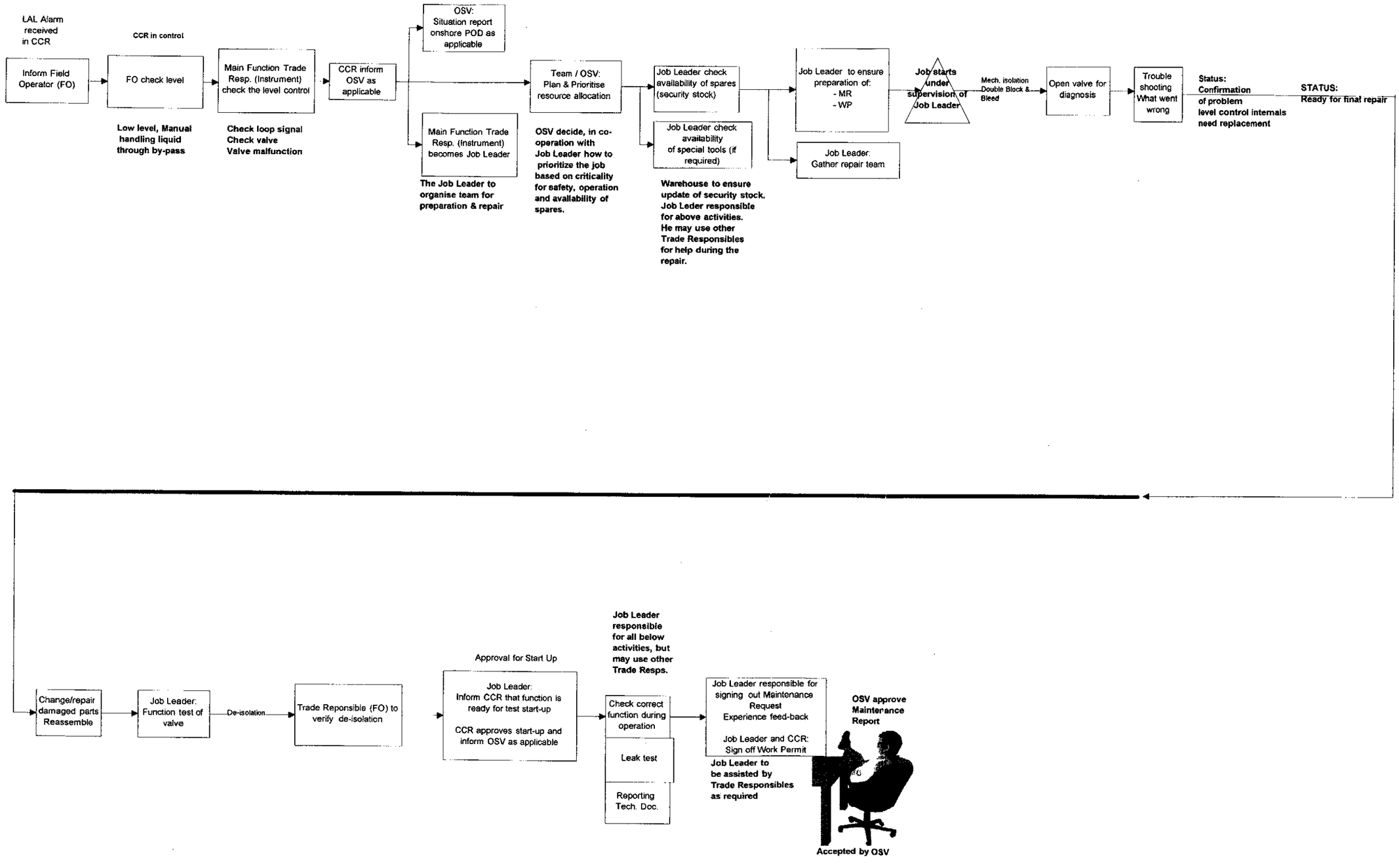
Job Leader and CCR: Sign off Work Permit

Job Leader to be assisted by Trade Responsibles as required

OSV approve Maintenance Report

Accepted by OSV

SCENARIO:
Loss of Liquid level in CV 210
PROBLEM:
LCV CV 210.05 malfunction



P:\FutOp\Responsibility definitions\Scenario responsibility\Frigg Repair scenario - CP 618 B.abc

SCENARIO:
External leak, CP 618 B, Frøy oil transfer pump.
Stand by pump operational
PROBLEM:
Mechanical Seal defect

Leak detected

CCR inform Mech. trade resp.

Mech. trade resp. check leak

Stand by pump CP 618 A starts

CCR inform OSV as applicable

OSV: Situation report onshore POD as applicable

Main Function Trade Resp. (Mech.) Becomes Job Leader

The Job Leader to organise team for preparation & repair

Operational team: Plan & Prioritise resource allocation during trouble-shooting

OSV decide, in co-operation with Job Leader how to prioritize the job based on criticality for safety, operation and availability of spares.

Status: Confirmation defect mechanical seal. Mechanical and Electrical isolation

Job Leader check availability of spares (security stock) and status on spare pump

Job Leader check availability of special tools (if required)

Onshore to ensure availability of all necessary spares / tools. Job Leder responsible for above activities. He may use other Trade Responsibles for help during the co-ordination of spares / tools.

The OSV, in co-operatin with CSV decide how to continue.

Replacement of mechanical seal to be performed by Campaign Team

TSD onshore →

CSV onshore to ensure preparation of: - MR

CSV onshore: Order personnel

CSV Onshore: Order Spare Parts and arrange logistics

Onshore Planning Phase

Organize Safety / Training

Ordering follow-up

Warehouse onshore: Organize transp. of goods Arrival notice to: - offshore

Onshore actions done when relevant / necessary

Transport of parts

Helicopter Boat

CSV offshore: Nominate Job Leader

Job Leader: Check arriving tools and parts

Offshore Warehouse: Coordinate goods on the platform

STATUS: Ready for final repair

Job Leader to ensure preparation of: - Work Permit - Mech. isolation - El. isolation

Dismantle, repair and Reassemble pump

Job Leader report repair completed to CSV and MFTR

Job completed. MFTR de-isolate pump

Approval for Start Up

MFTR:

Inform CCR that function is ready for start-up CCR approves start-up. OSV to be informed

CCR: Start of repaired pump

Job Leader responsible for all below activities, but may use other Trade Resps.

Job Leader: Function test of pump

Check correct function during operation

Reporting Tech. Doc.

Job Leader responsible for signing out Maintenance Request Vendor report as applicable Experience feed-back

Job Leader and CCR: Sign off Work Permit

Job Leader to be assisted by Trade Responsibles as required

OSV approve Maintenance Report

Accepted by OSV

P:\FutOp\Responsibility definitions\Scenaria responsibility\Frigg CV 628 - Internal Inspection.abc

SCENARIO:
Internal Inspection of CV628, Frøy 1st stg. separator