### DNV·GL

**OIL & GAS** 

# JIP Standardized Subsea Documentation General Presentation

Jan Ragnvald Torsvik, JIP Co-Chairman, Statoil Julia Mazurova Henriksen, JIP Co-Chairman, Aker Solutions Jarl S. Magnusson, JIP Project Manager, DNV GL Petter Myrvang, JIP Project Sponsor, DNV GL

## The Big Picture – Why do we do this?



Image from; <a href="http://scriptshadow.net/wp-content/uploads/2014/08/rUNFYnD.jpg">http://scriptshadow.net/wp-content/uploads/2014/08/rUNFYnD.jpg</a>

### Highest levels have noted the problem

There is too much paper, said Tord Lien and referred to the huge volumes of documentation that drives costs upwards and is about to kill the industry's profitability. Lien promised that the government would do what it can, but stressed that the industry itself is responsible for actual solutions.

### Minister of Petroleum and Energy, Tord Lien:

- Too much documentation in the oil- and gas industry
- Industry can work smarter

### Typical subsea project:

- > 10,000 documents
- > 80,000 doc (big project)
- Lifecycle of 30 years
- Engineering hours have increased with 70%
- More numbers...

## Key tasks – Mission from Norsk Olje og Gass (early 2013)



## **Current JIP Members as of April 2015**

Companies & Organizations	Туре	2014	2015
Aker Solutions	EPC	150	150
BrightPort	SUP/IT	0	100
Centrica	OP	250	250
DEA	OP	250	250
Det Norske	OP	250	250
Det Norske Veritas, DNV GL	EPC	-	-
FMC TI	EPC	150	150
GE (on HOLD)	EPC	0	0
GDF Suez	OP	250	0
Kongsberg	EPC	150	0
Lundin	OP	250	250
NCE Subsea	TRADE ORG	0	50
Norsk Olje og Gass (Observer)	ORG	-	-
Oceaneering	SUP	100	100
OneSubsea	EPCI	150	150
PTIL (Observer)	ORG	-	-
TOTAL			

Companies & Organizations	Туре	2014	2015
Statoil	OP	250	250
Subsea7	EPCI	150	150
Subsea Valley (SSV)	TRADE ORG	50	50
SUNCOR (on HOLD)	OP	250	0
TOTAL	20	2650	2150

## **Target for 2015 - increased participation**

Company/Org	Туре	Contact by Company/Org			Туре	Contact by
Anadarko (USA)	OP	Jalle		Wintershall	OP	FMC, Öyvind
Bayern Gas	OP	Lars-Jörgen Woodside		OP	Jalle	
BP	OP	Lars-Jörgen	Lars-Jörgen Visco (via SSV)		SUP/IT	Jalle
Chevron	OP	Jan Fredrik		Wood Group Kenny	EPC	Jalle
Conoco Phillips (USA)	OP	Jalle		Xvision AS (via SSV)	SUP/IT	Jalle
DONG E&P Norge AS	OP			ABB	SUP	
EMAS	EPCI	Lars-Jörgen		Allseas	SUP	
ENI	OP	Petter		Duco	SUP	
Exxon Mobile (USA)	OP			Exodus	SUP	
Fluor (USA)	EPC	Jalle		Flexifrance	SUP	
FreePort-McMoRan (USA)	OP	Jalle		Genesis ?	SUP	
IBRUK-Semcon (via SSV)	SUP/IT	Jalle	Jalle Heerema		SUP	
Maersk Oil Norway AS	OP	JDR		SUP		
Mustang Engineering (USA)	EPC	Jalle	Jalle KongsbergGruppen (Nemo)		EPC	
NOV (Denmark)	SUP	Jalle		4Subsea	SUP	
OceanInstaller	EPC			Nexans	SUP	
Shell	OP	Lars-Jörgen		Rambøll ?	SUP	
SUSSCO	ORG			Reinertsen	SUP	
SYSTEMITE	IT	Jalle		Saipem	SUP	
Technip (left us 2014-08-18)	EPC	Lars-Jörgen		Sintef	EPC	
Total	OP	Lars-Jörgen		Wellstream	SUP	
TransOcean	EPC			IKM OceanDesign	SUP	



### **JIP Agreement (Collective Contract)**

	Joint Industry Project		
	Statidardized Subsea D	scumentation	
	Form of Agreem	ent	
	Torin of Agreen	Name:	Address:
	"PARTICIPANT"	Det Norske Oljeselskap ASA	Munkegata 26 7011 TRONDHEIM
		Organization Number: 989795848	Invoice Address: faktura@detnor.no
Joint Industry Project		Participant Representative, name: Halvar Larsen	Participant Contract number:
		Participant Representative , email Halvar.Larsen@detnor.no	address: Participant Representative , telephone: Mobile: +47 416 01335
	"DNV"	Name: DNV GL AS DNV Organization Number: 945 7	Address: Veritasveien 1 48 931 N-1322 HØVIK Norway
Agreement for the Joint Industry Project		Responsible section/department: TNRNO765	
Standardized Subsea Documentation		DNV Representative, name: Jarl Magnusson	
		DNV Representative, email addre Jarl.S.Magnusson@dnvgl.com	ss: DNV Representative, telephone: +47 911 06 584
	"PROJECT"	Title: JIP Standardized Subsea D	locumentation
		Description/Purpose: DNV has initiated the PROJECT when Practice in cooperation with the indus PARTICIPANTS to contribute to the F The PARTICIPANT shall contribute finance STEERING COMMITTEE and in the 1 AGREEMENT.	re the main objective is to develop a DNV Recommended try. Apainat this background, DNV has invited the ROJECT. and and interests in participating in the PROJECT and each ally to the PROJECT and otherwise contribute in the TECHNICAL COMMITTEE and as otherwise specified in the
		See Appendix A for detailed PROJEC PROJECT MANAGER appointed by [	T description. The PROJECT shall be administered by a NV.
	The AGREEMENT the PARTIES shall DNV to all PARTIES JIP PROJECT. The General Cond Attachment 1 Spec In the event of any a) The Form o b) Attachment 1 Spec In the Genera d) The Genera d) The Genera d) The Genera App App App	governs the relationship between the P; enter into identical AGREEMENTS. Cop IPANTS as evidence of the PARTICIPA tions apply to all PARTIES. Conditions of all Conditions. Special Conditions will or conflict between the provisions of the Ar agreement 1 Special Conditions of Agreement 1 Conditions of Agreement 1 Conditions of Agreement andix A Project Description andix B Project Checuption andix C Administrative Requirements andix C Tadministrative Requirements andix E Participants	ARTICIPANTS and the PARTICIPANTS and DNV. Each of yo fthe signed form of Agreement will be distibuted by NTs and DNV's commitment to the AGREEMENT and the nny applicable to some of the PARTICIPANTS are stated in hy be entered into in exceptional cases. SREEMENT, they shall apply in the following order of priority pwing order:
	Por Det Horske (	Data:	Place: Date:
Rev. 04 dated 16.05.2014	Flace.	Date.	Høvik
	Signature		Signature
			Petter Myrvang Head of Section Information Risk Management
	Page 3 DNV Rev. 04, 16.05.20	14	

## JIP Subsea Documentation, Project Plan 2014-2016

### Mission from Norsk Olje og Gass (2012-13)

JIP Phase 1 – Req. Docs Clean up Matrix #1 (2014)	
CTR1 – Project Management CTR2 – Marketing and awareness building CTR3 – WS, Scoping of typical subsea systems, products and doc types CTR4 – WS, Minimum set of documentation for a subsea field CTR5 – WS, Identify company specific/additional requirements, standard Basic, Premium CTR6 – WS, Development of data and documentation definitions CTR7 – WS, Package the above into an RP, draft 1	Ref. SOW & Execution Plan for 2014 and Supreme Doc Sets
JIP Phase 2 – Req. Doc/Info Clean up Matrix #2, SURF, GAP, Pilot (2015)	
CTR8 – Project Management CTR9A, 9B and 10, – WS, Scope and update of Matrix 2 CTR11 and 12 – WS, Map Matrix 1 and Matrix 2, extend scope to include SURF CTR13 – WS, Admin requirements, SE Scope CTR14 – WS, Conduct a Pilot activity, GAP-analysis CTR15 – WS, Develop a MRB- and other compound document matrixes CTR16 – WS, Recommended Practice, draft 2 CTR17 – Develop matrix for ITP (Parked)	Ref. SOW & Execution Plan for 2015
JIP Phase 3 – Finalize Matrix 1, 2, 3, 4, 5, Integrated and Shared Doc Solution, I	mplement (2016)
CTR18 – Project Management CTR19 – WS, Specify an integrated, shared solution (i.e. Licence2Share) CTR20 – WS, Specify criteria for availability, guality, security, governance (incl. hosting, c	costs), IPR,

transparency and interface towards Operators, Contractors, Suppliers and Government authorities

CTR21 - WS, Build a Pilot/Demo Installation, Proof-Of-Concept, Evaluate and Conclude

CTR22 – WS, Recommended Practise, version 1

### JIP Subsea Documentation, Project Plan 2014-2016



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### Scope SPS/SURF



Image from Ibruk/Subsea1. Subsea Production System (SPS), Subsea Umbilicals Risers and Flowlines (SURF)

### **Scope SPS/SURF Lifecycle, information flow...**



### Method of scoping Subsea Systems and its Doc Sets



## We need two matrixes; Matrix #1 and Matrix #2



## Matrix #1 (Operator – Contractor), from 2014



#### DNV GL

Less Doc Types

## Matrix #2 (Contractor – Supplier), from 2015



Scoped Product Categories and Products

## **Creating an Recommended Practise (RP)**

	DNV-GL   RECOMMENDED PRACTICE   DNV GLAS   Page 3 (51)     DNVGL-RP-0071
Decument INFORMATION   Title of document: STANDARDIZED SETS OF SUBSEA DOCUMENTATION   All other parts/documenta affected by this proposal: No   Date:   Date:	Table of Content:   1 Scope, objective and limitations
	4.6 Matrix 5, Detailing of Dispatch Dossier (DD)
Draft 1, Internal, 2014-12-31, Ope Draft 2, Internal, 2015-12-31, Add Final, External, Q2/A3 2016	4.6 Matrix 5, Detailing of Dispatch Dossier (DD)

### Two pages from the RP Draft 1, internal, 2014-12-31



#### 4.2 Matrix 1, Operator-Contractor, basic list of subsea documentation

The first matrix scopes the SPS systems and functions and its required documentation. Systems and functions are color coded, as shown in the table below.

	System level. NO DOCUMENT REQUIREMENT.
	Assembly level. NO DOCUMENT REQUIREMENT.
	Group (mounted on) level. NO DOCUMENT REQUIREMENT.
	Function level. Document required during Project Phase.
0	Function level. Document required for Operations and Maintenance.
N:3	Function level. Document required. See Note #3 for more information.
N:3	Function level. Document required. See Note #3 for more information.
	Any level. NO DOCUMENT REQUIREMENT.

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RECOMMENDED	PRACTICE
DNVGL-RP-0071	

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Page 12 (15)

#### 4.2.1 Wellhead System (WH)

The subsea wellhead system is a pressure-containing vessel that provides a means to hang off and seal off casing used in drilling the well. The wellhead could also provide a profile to latch on a subsea blowout preventer (BOP) stack and drilling riser back to the floating drilling rig. In this way, access to the wellbore is secure in a pressure-controlled environment. The subsea wellhead system is located on the ocean floor, and must be installed remotely with running tools and drill-pipe, http://petrowiki.org/Subsea wellhead systems.

NOTES:

- 1. Dispatch dossier for each batch of delivered items
- 2. One MCD per shipping package
- 3. Wellhead fatigue shall be covered in design report
- 4. Native format (N), Postscript Delivery Format (PDF)
- 5. Information in Product Data Sheet may be included in OMM.

6. Part of WH system document

Operator-Contractor Systems & Functions, and Document Types	Reference	Delivery Format <mark>(N:4</mark> )	WELLHEAD SYSTEM	Conductor Housing	Wellhead Housing	Casing Hanger C/W Pup	Pack Off/Seal Assembly	Corrosion Caps
Design Basis	007	N		N:6	N:6	N:6	N:6	N:6
Design Report	008	PDF	N:3	N:6	N:6	N:6	N:6	N:6
Dispatch Dossier (N:1)	010	N						
FAT Procedure	014	N						
General Arrangement Drawing	016	N		0	0	0	0	0
Inspection & Test Plan (ITP)	021	N		N:6	N:6	N:6	N:6	N:6
Manufacturing Record Book (MRB)	024	PDF		0	0	0	0	0
Mechanical Completion Dossier (N:2)	026	N						
Operation and Maintenance Manual (OMM)	027	Ν	0	N:6	N:6	N:6	N:6	N:6
Product Data Sheet (N:5)	029	N		0	0	0	0	0
Scope of Supply drawing	032	N	0	N:6	N:6	N:6	N:6	N:6
Spare Parts Interchangeability Register (SPIR)	033	N	0	N:6	N:6	N:6	N:6	N:6
Stack-Up-Drawing	034	N	0					

#### 4.2.2 Xmas Tree (XMT) System

A Christmas tree, or "XMT tree", is an assembly of valves, spools, and fittings used for an oil well, gas well, water injection well, water disposal well, gas injection well, condensate well and other types of wells. It was named for its crude resemblance to a decorated tree,

http://en.wikipedia.org/wiki/Christmas tree %28oil well%29.

#### NOTES:

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## **Implementation by Statoil**



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ommissioning procedures	5.44	DOC +	LCI 2	x		x	x			x	x	
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## **References to/from our RP?**



References to system/functions definitions (Subsea1)

### **Visualization and marketing activities**



### **SharePoint Site**



### Standardised subsea documentation JIP

### SHARE: < TWITTER: 💓 PRINT: 🖶

Together with Norsk olje & gass Subsea Intallations Network, DNV GL has taken steps to establish a Standardised Subsea Documentation Joint Industry Project (JIP). The aim is to develop a Recommended Practice (RP) presenting the minimum set of documentation requirements for all major subsea components.

#### Challenge

Operators, contractors and supplier to jointly scope and agree upon a typical set of subsea systems and functions, and its required minimum set of documentation. Agree upon documentation definitions and a method to allow for company specific requirements.

#### Solution

Practically improve industry practices through a DNV GL Recommended Practice.

#### Value proposition



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he airy of this broad industry collaboration initiated by DNV GL and the Narwegian Di and en Association is to develop an strandardised and of subsex-system documents for designing, proving, manufacturing, surving, repending and materialing experiment," explains the SIP spicit manager Jarl S. Hagracean of DNV GL OI & Gas Advisory.	Press-release
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## **1 minute Summary - JIP Standardized Subsea Documentation**

### Challenge:

Operators, contractors and supplier to jointly scope and agree upon a typical set of subsea systems and functions, and its required minimum set of documentation. Agree upon documentation definitions and a method to allow for company specific requirements.

### Solution:

Practically improve industry practices through a DNV GL Recommended Practice.

### Value proposition:

Increased predictability will improve industry practices; helping operators, contractors and suppliers to better understand and manage subsea documentation, and benefit from reduced lead time, less documentation, a sharing paradigm, increased awareness, transparency and improved quality.



- JIP start-up: January 2014
- Completion: December 2016
- RP draft 1 delivered Q4, 2014
- RP draft 2 scheduled Q4, 2015

*Contact:* jarl.s.magnusson@dnvgl.com

# Thanks.!!

Jarl S. Magnusson jarl.s.magnusson@dnvgl.com +47 911 06584

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