

POSC Caesar Report for 2004



POSC Caesar

10 May 2005

Dear POSC Caesar Member,

Please find on the following pages the POSC Caesar Report for 2004. This report is a summary of the activities for 2004 and is based on the POSC Caesar Work Plan for 2004.

Some of the major accomplishments for 2004 include:

- Initiating the development of a new Reference Data System to house the Reference Data Library. This tool shall have additional web functionality and make the Reference Data Library more accessible to POSC Caesar members.
- Establishing collaboration with the Petrotechnical Open Standards Consortium (POSC). POSC has established an oil and gas standard for drilling and logging data that can be integrated in the POSC Caesar Reference Data Library.
- Significant progress on the development of ISO 15926-3 Ontology for Geometry and Topology. This standard allows CAD, GIS and Earth data to be integrated in the same data repository.
- Participation in the Integrated Information Platform (IIP) project which has started significant extensions to the Reference Data Library for subsea systems.

If you have questions or comments to the POSC Caesar Report for 2004, please contact me.

Yours sincerely,
for POSC Caesar Association

Nils Sandsmark
General Manager

POSC Caesar
c/o Det Norske Veritas

Telephone:
+47 67 80 59 50

Telefax
+47 67 80 59 40

E-mail
pca@posccaesar.com

N-1322 HØVIK
NORWAY



POSC Caesar Report for 2004

Contents

This report refers to the POSC Caesar Work Plan for 2004 and is a summary of the activities of the POSC Work Plan for 2004. Detailed information on the scope of the activities can be found in the POSC Work Plan for 2004.

- 1 ADMINISTRATION..... 3
 - 1.1 HOUSING AND ADMINISTRATIVE FUNCTIONS 3
 - 1.2 NEW VERSION OF THE REFERENCE DATA SYSTEM..... 3
 - 1.3 MANAGERIAL AND TECHNICAL COURSES..... 3
 - 1.4 CONFERENCES/SEMINARS AND MEMBERSHIP MEETINGS 3
 - 1.5 WEB SITE 3
 - 1.6 COLLABORATIONS 4
- 2 ISO 15926..... 5
 - 2.1 ISO 15926 PART 1: OVERVIEW AND FUNDAMENTAL PRINCIPLES AND PART 2: DATA MODEL 5
 - 2.2 ISO 15926 PART 3: ONTOLOGY FOR GEOMETRY AND TOPOLOGY 5
 - 2.3 ISO REGISTER 5
 - 2.4 ISO 15926 PART 7: IMPLEMENTATION METHODS FOR DATA EXCHANGE AND INTEGRATION..... 6
- 3 ONGOING AND PLANNED PROJECTS..... 7
 - 3.1 CO-OPERATION AND STANDARDS FOR LIFE CYCLE ASSESSMENT DATA IN EUROPE (CASCADE)..... 7
 - 3.2 NORWEGIAN DEFENCE - SAP MATERIAL MASTER 7
 - 3.3 EUROPEAN PIPELINE INTEGRITY MANAGEMENT SYSTEMS 7
 - 3.4 REFERENCE DATA LIBRARY FOR PIPING AND PIPING PARTS 7
 - 3.5 CREATION OF TEMPLATES TO ISO 15926-7 7
- 4 PISTEP..... 8
- 5 POSC CAESAR (NO) 9
- 6 POTENTIAL PROJECTS IN YEAR 2005+..... 10
 - 6.1 EXTENDING THE RDL TO INCLUDE SAFETY AND AUTOMATION SYSTEMS 10
 - 6.2 EXTENDING THE RDL TO INCLUDE ISO 13628 SUBSEA PRODUCTION SYSTEMS 10
 - 6.3 EXTENDING THE RDL TO INCLUDE OPERATION AND MAINTENANCE..... 10
 - 6.4 INTELLIGENT DATA SHEETS 11
 - 6.5 EXTENDING THE RDL TO INCLUDE FACILITY DATA FOR DRILLING AND WELL 11
 - 6.6 EXTENDING THE RDL TO INCLUDE EXPLORATION AND RESERVOIR EVALUATION..... 11
 - 6.7 EXTENDING THE RDL TO INCLUDE REAL TIME DRILLING AND WELL DATA..... 12
 - 6.8 EXTENDING THE RDL TO INCLUDE REAL TIME PRODUCTION DATA..... 12
 - 6.9 ENGINEERING DATA INTEGRATION ACROSS CULTURES 12



1 Administration

POSC Caesar performed adequately in 2004. POSC Caesar's major focus was ISO 15926 standardization and new projects rather than on general administrative activities.

1.1 Housing and administrative functions

POSC Caesar is renting offices, meeting room and IT facilities from DNV. POSC Caesar contracted personnel from DNV for management, accounting/legal issues, web site updating, meetings, member administration, organising courses / seminars and marketing.

An agreement between POSC Caesar and Det Norske Veritas (DNV) has been signed.

1.2 New version of the Reference Data System

POSC Caesar's Reference Data System (RDS) is the Association's most important tool and most of its assets are stored in this system. A new tool is needed with additional functionality to better manage the Reference Data Library (RDL) in accordance with ISO 15926 - 2 Data Model International Standard (IS). The tool should allow members of POSC Caesar to make proposals for adding reference data to PC-RDL independent of location. The new RDS will be available on the POSC Caesar web site.

POSC Caesar initiated an RDS project with DNV to develop the specification and manage the procurement process for a new RDS. An initial functional specification was developed and a request for proposal was sent to POSC Caesar members and other companies who are familiar with ISO 15926. The cost of this tool is largely funded by OLF. Other funding sources will be sought to make up for any funding shortfall and maintenance and support.

1.3 Managerial and Technical Courses

POSC Caesar offered the membership two ISO 15926 training courses in 2004. Each of these 3-day technical courses was attended by 9-12 participants. The second course was supported by DNV.

1.4 Conferences/seminars and membership meetings

POSC Caesar participated in the Product Data Technology Europe Conference in 2004 with a paper on integrating information across disciplines using ISO 15926. The man hour and travel costs for this conference were paid by DNV.

1.5 Web site

The web site has been improved with more frequently updated news and information on courses and projects.

POSC Caesar Report for 2004



POSC Caesar

1.6 Collaborations

POSC Caesar and the Petrotechnical Open Standards Consortium (POSC) signed a collaboration agreement. Both organizations agreed to support each others work. POSC agreed to provide drilling and well ontologies for the Integrated Information Platform (IIP) project in return for production ontologies from the IIP project.

POSC Caesar
c/o Det Norske Veritas

Telephone:
+47 67 80 59 50

Telefax
+47 67 80 59 40

E-mail
pca@posccaesar.com

N-1322 HØVIK
NORWAY



2 ISO 15926

POSC Caesar is the custodian for the administration of the international standard “ISO 15926 *Integration of life-cycle data for process plants including oil and gas production facilities*”. Significant standardization progress was made in 2004.

Today ISO 15926 consists of seven parts:

- ◆ *Part 1 Overview and fundamental principles*
- ◆ *Part 2 Data model*
- ◆ *Part 3 Ontology for Geometry and Topology*
- ◆ *Part 4 Reference data*
- ◆ *Part 5 Procedures for registration and maintenance of reference data*
- ◆ *Part 6 Scope and methodology for developing additional reference data*
- ◆ *Part 7 Implementation methods for data exchange and integration*

2.1 ISO 15926 Part 1: Overview and fundamental principles and Part 2: Data model

Both Part 1 and Part 2 have been approved at International Standard (IS) level. ISO 15926 - 1 was published as an IS in June 2004. ISO 15926 - 2 was published as an IS in December 2003.

2.2 ISO 15926 Part 3: Ontology for Geometry and Topology

ISO 15926 – 3 is Ontology for Geometry and Topology. The proposed standard will make the concepts defined by ISO 10303-42 and ISO 10303-104 available within the ISO 15926 environment. The ontology defined by ISO 15926-3 will be equally valid for CAD, GIS and Earth Models. The use of the ontology will enable CAD, GIS and Earth data to be integrated within the same data repository.

Significant technical progress was made on this standard in 2004. A new work item was initiated at ISO and ISO 15926 Part 3 neared the development of a Technical Standard (TS) / Committee Draft (CD).

This work was funded through POSC Caesar’s participation in the Integrated Information Platform (IIP) project.

2.3 ISO Register

The ISO Register is based on enhancement of ISO 15926 Part 4, 5 and 6. Part 5 and Part 6 were planned to be updated to comply with the stakeholders’ expectations of quality and user-friendliness as industrial reference data libraries.

POSC Caesar Report for 2004



POSC Caesar

A combined NWI proposal and CD/TS proposal for ISO 15926 - 4 was sent for ballot in late 2004. This included making ISO 15926 - 4 comply with ISO - 2 for a core set of classes. The ballot period is three months, ending February 2005.

ISO 15926 – Parts 5 and 6 are still under development.

A proposal for an ISO Maintenance Agency for ISO 15926 Reference Data is under development.

2.4 ISO 15926 Part 7: Implementation methods for data exchange and integration

ISO 15926-7 has the objective of developing rules for implementing the data model in ISO 15926 Part 2 and the reference data in ISO 15926 Part 3 and Part 4. These rules shall be documented as ISO 15926 Part 7 (TS).

This work is being done in the Netherlands and being reviewed by POSC Caesar. A second version of the New Work Item TS/CD proposal was developed. This is planned to be sent for ballot to ISO in 2005.

POSC Caesar
c/o Det Norske Veritas

Telephone:
+47 67 80 59 50

Telefax
+47 67 80 59 40

E-mail
pca@posccaesar.com

N-1322 HØVIK
NORWAY



3 Ongoing and planned projects

Status of ongoing projects and projects planned for 2004 for extending the reference data and/or creating data sheets are listed below:

3.1 Co-operation And Standards for life Cycle Assessment Data in Europe (CASCADE)

3.1.1 Objectives

The CASCADE project prepared standardised computer-sensible representations of the data types defined in the ISO 14040 series as part of ISO 15926-4. A database of standard Life Cycle Assessment (LCA) terminology was developed and interfaces to ISO 10303 and ISO 13584 for use of this computer sensible data was prepared. This data from ISO 15926-4 was made available in XML format.

3.1.2 Status

This project was successfully concluded in 2004.

The project results were well received by the EU Commission. A possible continuation of this project has been discussed.

3.2 *Norwegian Defence - SAP Material Master*

This project was not started.

3.3 *European Pipeline Integrity Management Systems*

This project was not started as planned. EU funding was not received for the entire project.

However a portion of the project has been funded by the EU.

3.4 *Reference data library for piping and piping parts*

This project was not started, but may still be started in 2005.

3.5 *Creation of Templates to ISO 15926-7*

This project was not started. The project is still under discussion.

A possible OWL implementation is being considered.



4 PISTEP

One project was proposed. This project was not started and there has been no activity in PISTEP since the middle of 2004. **POSC Caesar**



5 POSC Caesar (NO)

This activity in POSC Caesar (NO) was put on hold in 2004.



6 Potential projects in year 2005+

Several projects were started in 2004.

6.1 *Extending the RDL to include safety and automation systems*

6.1.1 Objectives

The project shall extend the reference data library in ISO Register to include all terminology for safety and automation system (SAS) based on NORSOK's standard "I-002 Safety and automation system".

6.1.2 Status

This project was scoped in 2004 and included as part of the Integrated Information Platform project. This project has been funded by the oil and gas industry and the Norwegian Research Council. This work is scheduled to be done in 2005-6 and is limited to subsea installations.

6.2 *Extending the RDL to include ISO 13628 Subsea production systems*

6.2.1 Objectives

The project shall extend the reference data library in the ISO Register to include the terminology of "ISO 13628 Design and operation of subsea production systems" and normative references within these standards to other standards.

6.2.2 Status

This project was scoped in 2004 and included as part of the Integrated Information Platform project. This project has been funded by the oil and gas industry and the Norwegian Research Council. This work is scheduled to done in 2005-6.

6.3 *Extending the RDL to include operation and maintenance*

6.3.1 Objectives

This project will extend the reference data for real time operation and maintenance of offshore production facilities by utilising the benefits of the close collaboration between PLCS (Product Life Cycle Support) organisation and POSC Caesar.

PLCS is a major endeavour sponsored by the defence and aerospace industries planning to use the POSC Caesar's Reference Data System for storing reference data (<http://www.plcsinc.com/>).

6.3.2 Status

This project was scoped in 2004 and included as part of the Integrated Information Platform project. This project has been funded by the oil and gas industry and the Norwegian Research Council. This work is scheduled to done in 2005-6 and is limited to subsea installations.



The cooperation with POSC Caesar in 2004 was not as extensive as first planned. A more extensive cooperation is planned for 2005.

POSC Caesar

6.4 Intelligent data sheets

6.4.1 Objectives

The project shall convert NORSOK's data sheets that are in use in the Norwegian offshore industry today to a set of generic data sheets that are in compliance with ISO 15926. There are more than 300 NORSOK data sheets and they are given on the web site: <http://www.nts.no/norsok/>. Piping and valves will not be included in this work.

6.4.2 Status

This work has not been funded and has not been started.

This is still considered to be a potential project.

6.5 Extending the RDL to include facility data for drilling and well

6.5.1 Objectives

The project shall extend the reference data library for the ISO Register to include the terminology defined in the NORSOK's standards "D-001 Drilling facilities" and "D-002 System requirements well intervention equipment" and normative references to within these standards to standards in ISO TC 67.

6.5.2 Status

This work has been superseded by the POSC Caesar collaboration with POSC. This collaboration has resulted in the Integrated Information Platform project extending the ISO 15926 RDL with the POSC drilling and well terminology. This project has been funded by the oil and gas industry and the Norwegian Research Council. This work was started in 2004 and is scheduled to be completed in 2005.

6.6 Extending the RDL to include exploration and reservoir evaluation

6.6.1 Objectives

The project shall extend the reference data library for all subsurface activities including exploration, drilling, reservoir evaluation and production.

6.6.2 Status

A large portion of this project was scoped in 2004 and included as part of the Integrated Information Platform project. This project has been funded by the oil and gas industry and the Norwegian Research Council. This work is scheduled to done in 2005-6 and is limited to drilling, reservoir and production evaluation.



6.7 Extending the RDL to include real time drilling and well data

6.7.1 Objectives

The project shall extend the reference data library for ISO Register to include all terminology for real time acquisition of well data and operation of drilling.

6.7.2 Status

This project was scoped in 2004 and included as part of the Integrated Information Platform project. This project has been funded by the oil and gas industry and the Norwegian Research Council. This work was started in 2004 and is scheduled to be completed in 2005.

6.8 Extending the RDL to include real time production data

6.8.1 Objectives

The project shall extend the reference data library for ISO Register to include all terminology for real time acquisition of production data and operation of the production facilities.

6.8.2 Status

This project was scoped in 2004 and included as part of the Integrated Information Platform project. This project has been funded by the oil and gas industry and the Norwegian Research Council. This work was started in 2004 and is scheduled to be completed in 2005 and is limited to subsea installations. The project results are expected to be implemented as part of TietoEnator's Energy Component software system.

6.9 Engineering Data Integration Across Cultures

6.9.1 Objectives

The project shall:

1. Extend the RDL of ISO 15926 to include the most common engineering data sheets for handover (project to operation) and procurement in France, Germany, Italy and UK
2. Translate the ISO 15926 to French, German and Italian
3. Develop software for generic data sheets compliant with ISO 15926 for the data sheets in item 1 above
4. Involve major market drivers and some competent solution providers

By using Internet, this approach will extend the capabilities of this technology to integrate engineering data across disciplines, phases, geographical distances, linguistic communities and different cultures and thus:

1. Facilitate the implementation of "think global, act local" strategy
2. Enable products and services tailored to national and linguistic communities
3. Reduce cost and shorten time-to-market

POSC Caesar Report for 2004

4. Facilitate effectively re-use of information in engineering and in procurement
5. Facilitate extension of the methodology to other industries and cultures



POSC Caesar

6.9.2 Status

This project has not been started.

This project is still of interest.