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Body of Knowledge Committee: International  
Petroleum Data Standards & Best Practices (IPDS)  
CHARTER

PRESENTED BY: MEMBERS OF THE PPDM  
ASSOCIATION

PROFESSIONAL PETROLEUM DATA MANAGEMENT  
ASSOCIATION  
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# Body of Knowledge Committee: International Petroleum Data Standards & Best Practices (IPDS)

## PROJECT BACKGROUND AND PURPOSE

Every year, our industry spends hundreds of billions of dollars creating, collecting or buying data to support the asset life cycle, from Exploration to Abandonment. Shared among many stakeholders and complex processes over lengthy periods of time, this valuable resource is best managed holistically as a strategic asset. Today's workplace has been described as being based on a "knowledge economy". Statistics about the volume, variety, velocity and veracity of data show that data assets are large and complex.

Even organizations who have successfully created data management as a corporate discipline recognize that the majority of data used within any company comes from sources outside their area of control. It is only through collective, industry driven developed and adopted data management expectations that we will fully achieve our objectives.

*A recognized professional discipline is created by a governed body of ethics-driven professionals who have an intentional and common purpose to develop, deploy and support a body of knowledge and professional development for the practice of data management as a professional discipline.*

Since 1991, the PPDM Association has developed standards and best practices for data management. In 2007, the PPDM membership expanded its remit to support the professionalization of data management as a recognized discipline for industry.

Many components are necessary for this to happen, including the development of regional and local communities, the creation of training and certification programs, the development of professional development pathways, and the development of a body of knowledge for petroleum data managers. A cohesive Body of Knowledge (BOK) is essential to establishing and maintaining a standard of excellence within a professional discipline. A discipline centric BOK, established standards and best practices set expectations and build trust both internally and externally.

Internally: Amongst data management professionals, the BOK underpins a consistent baseline framework of vocabulary, knowledge skills and demonstrable competencies in the oil and gas business. This allows professionals to develop foundational skills and knowledge that are broadly applicable and appropriate through many regions, companies, and operational models.

Externally: Consumers of data management resources and products expect them to conform to industry standards and best practices, as encapsulated in the BOK. This conformance builds trust in the outcome, reduces internal staff training time, and supports better access to "best in class" products

and services. Outward verification is tied to the existence of criteria such as degrees, certifications, training programs and accessible standards and best practices.

Financial reporting and professional accountants are a good example of the need for both a BOK and professional standards and best practices. *Generally Accepted Accounting Principles* (GAAP) and the *International Financial Reporting Standards* (IFRS) allow accountants to provide trusted financial information that is globally consistent and appropriate. The move from regional GAAP variations to the internationally uniform IFRS illustrate the importance of clear, unambiguous and consistent standards and best practices for a discipline. Standards allows our global financial economy to operate effectively and efficiently, while professional programs provide validation about the practitioner's knowledge of and adherence to the standards.

Closer to the technical data community, the 2009 United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources (UNFC-2009) assists corporate business processes and is supported by a Body of Knowledge from the SPE on classification of oil and gas reserves.

This charter recommends the creation of a member led Body of Knowledge committee that will coordinate and lead the effort to identify and consolidate the BOK for data management professionals in the oil and gas industry. The BOK committee will work in alignment with the community, professional development and certification committees to ensure that all programs remain aligned.

This will be a standing committee of the PPDM Association, and will require participation of industry representatives, each of whom will commit to a two year term of participation.

## PPDM'S STRATEGIC VISION

Professional recognition is not achieved quickly. The illustration below shows the progressive development plan of the PPDM Association; our programs have been grounded in these strategies for a decade. The iterative PPDM approach is multifaceted, with each element in the strategy providing the framework within with the next elements are grounded. The BOK committee formed under this charter will drive out level 2 of these objectives (Body of Knowledge and Best Practices).



1. Create the Community of Practice: Every discipline starts with the growth of an intentional and purposeful community of data managers who build personal, professional and technical relationships with each other.
  - a. Communities are built regionally, each with a strong and committed leadership team.
  - b. Communications are fostered through technical publications, social media and professional journals.
  - c. Relationships between service providers and service consumers are fostered in a neutral collaborative environment.
  - d. Leadership is provided by a strategic board of directors who guide the community toward success.
  
2. Inward Facing Initiatives Drive out the Body of Knowledge, Standards and Best Practices: Subject Matter Experts (SME) in the community of practice are recruited to identify or create a family of products that support and sustain a foundation of practice for data management that is the core of a recognized professional discipline. The existence of a professional discipline is predicated on the existence and use of these materials as appropriate.
  - a. Best practices: This is foundational knowledge for a data manager in the practice of their profession. “What is a Well”, and the Business rules repository are good examples of foundational knowledge elements. Optimum accepted practices must be continually evaluated and updated to reflect the rapid development and change cycle of oil and gas technology.

- b. Standard Specifications: these specifications are useful tools that can be used by a data manager to fulfill certain functions to ensure that data is interoperable, accessible and available to all stakeholders. The PPDM Data Model is an example of a Standard Specification. Members of the Standards Leadership Council also develop and promote standard specifications that are useful.
  - c. Professional Expectations: In the practice of any profession, it is necessary to determine what constitutes appropriate expectations. These expectations support the necessary trusted relationship between data managers and their stakeholder customers.
- 3. Outward Verification of the Data Manager's Portable Skill and Knowledge. Recognition of a trusted and useful professional discipline is grounded on a clear validation that practitioners understand and follow industry best practices; and that training, education and qualification opportunities are available to (and used by) practitioners.
  - a. Training and Education: Industry training programs, along with post-secondary programs, include data management elements that are aligned with industry expectations in their curricula.
  - b. Certification and Professional Development: Certification programs validate the data managers' skills and knowledge and enforce the expectation for continuous professional development.
  - c. HR support: Standardized job descriptions, salary surveys, career ladders, standardized benchmarks, key performance indicators, and metrics and other support materials help Human Resources build and maintain a competitive environment for data managers. Recommended goals and objectives for professional data managers should be supported by demonstrable proof points in a competency management framework.

## HIGH LEVEL GOALS AND OBJECTIVES

The Committee will collaborate on standards and best practices that are necessary to support each of the stakeholder communities that have been identified:

1. Data management professionals who work in the oil and gas community.
2. Companies and user communities who employ the services of data managers in support of their business objectives (such as finding oil, selling consulting services, or developing data related products).
3. Companies who provide services that support data managers, such as consulting, data and software services.
4. Government agencies or bureaus who serve as authorities for E&P operations within their regulatory scope.
5. Standards bodies, academia and others who:
  - a. Develop standards and best practices for data created or used by the oil and gas industry

Initially the committee will examine and prioritize opportunities such as these:

1. Describe the purpose and role of a body of knowledge for data management professionals in the oil and gas industry.

2. Identify the characteristics of an appropriately developed and maintained object within the proposed BOK.
3. Identify or solicit candidates for inclusion in the proposed BOK.
4. Recommend strategies to create elements that are missing from the BOK.
5. Ensure that the BOK is aligned with those for data management in allied industries.
6. Design a maintenance strategy for the BOK.
7. Ensure that BOK concepts are included in programs for education, training, certification and professional development.
8. Ensure that BOK concepts are embedded in products and services for industry.
9. Design strategies to help industry converge on foundational elements of the BOK over time.
10. Consider and identify the best methods for publishing, distributing and maximizing the value of the intellectual property contained in the content of the BOK.

## ASSUMPTIONS

- Volunteer participants will be available to serve two year terms
- PPDM will support logistical and organizational requirements, will ensure that the committee is well formed and adheres to PPDM Policies (including Code of Ethics and applicable Anti-trust law)
- It is hoped that some companies will donate existing work to the program.
- Existing PPDM relationships with Standards Leadership Council participants and educational institutions will be leveraged in order to gain input from the overall standards community and cooperation with the academic community who have already shown interest in PPDM.

## RISKS & CONSTRAINTS

- Economic conditions may result in some program delivery delays
- Some petroleum industry operators have developed internal best practices and vocabularies, and work may need to be done to create awareness and gain support of PPDM efforts.
- Where BOK content overlaps proprietary company content and policies that may be seen as providing a competitive advantage, we can expect resistance to sharing.
- Gaps in identifying what is already available; we recognize that making the information complete will take time and trust building to encourage participation.
- Some government jurisdictions may consider best practices around data management to be the property of the regulating government agency.

## SCOPE

This project will focus only on the most important best practices that are needed to achieve the main goals. Additional projects may be recommended once this is complete.

### IN SCOPE

- Deliverables as outlined above, and additional products as recommended by the committee and approved by the PPDM Board of Directors.

### OUT OF SCOPE

- Certification deliverables (these are a conflict of interest)
- The committee is not responsible for the development of training programs

- Developing a complete body of knowledge. We expect that the committee will solicit materials or recommend the formation of specific workgroups to address critical gaps.

## DELIVERABLES

KEY DELIVERABLES	PRIORITY / ORDER	SPECIFIC RECOMMENDATIONS
Describe the purpose and role of a body of knowledge for data management professionals in the oil and gas industry.		
Identify the characteristics of an appropriately developed and maintained object within the proposed BOK.		
Identify or solicit candidates for inclusion in the proposed BOK.		
Recommend strategies to create elements that are missing from the BOK.		
Design a maintenance strategy for the BOK.		
Ensure that BOK concepts are included in programs for education, training, certification and professional development.		
Ensure that BOK concepts are embedded in products and services for industry.		
Design strategies to help industry converge on foundational elements of the BOK over time.		

## FUNDING MECHANISMS

- The committee will be launched with PPDM funding
  - It is hoped that some industry seed money will help accelerate critical elements of the program
- A business plan will be developed outlining methods for the necessary ongoing funds to be acquire through program deliverables including:
  - Advertising
  - Fees to access certain materials

## RISKS AND ISSUES MANAGEMENT

This section will be completed by the workgroup, initial risks listed below:

Date recorded	Risk description	Probability	Impact	Mitigation plan
	Volunteer time	High	High	Scale plan to capabilities, ensure PPDM staff carry logistical burden
	Funding	High	Medium	Funding will accelerate the program, but if not available, the pace of delivery will be tuned to the funding available.
	Industry participation	Medium	Medium	Need to make sure that the projects stay within scope. We will have a committee member act as liaison to be sure scope is managed

#### IMPLEMENTATION APPROACH

This project will be managed with an iterative and incremental method to review the opportunities that are most valuable to industry. This will be highly interactive and require participation from input from both operator and vendor subject matter experts.

#### HIGH LEVEL TIMELINE/ SCHEDULE

Contingent on the scope of the charter, this committee is projected to launch before the end of 2016.

This work is expected to span many years, and to be completed at the pace industry is able to support. Time lines will be set by the work group when they meet.

The need for the BOK Committee is critical and members who are interested have requested that this committee be expedited for swift completion.