



# **PPDM Association**

## **Obligations Reference Guide**

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# About This Document

This reference guide has been prepared to help managers, analysts, DBAs, programmers, data managers, and users understand how the Data Model is intended to be used. Readers at many levels, from managerial to technical implementers will benefit from reading this document. General, high-level business information is contained at the beginning of the document, with each section becoming progressively more technical and detailed.

Sometimes the terms we use in this and other PPDM documents need to be defined. We provide definitions in a separate Glossary, which you can obtain from PPDM.

This reference guide contains the following sections:

- Introduction  
Provides an executive overview of the PPDM Model as it pertains to Obligations.
- Business Process Overview  
Summarizes Obligations and provides examples of related business processes.
- Integration  
Discusses the integration of Obligations with the other PPDM Business Modules and provides information about related references guides.
- Model Overview  
Includes the entity relationship diagram and discusses the use of Obligations Module tables in the Data Model.
- Tables and Columns – Obligations  
Identifies the data model tables for the Obligations Module, what they contain, and how they should be used. This section is intended to be used in conjunction with the PPDM Table Report available for download from the PPDM Web Site ([www.ppdm.org](http://www.ppdm.org)).
- Implementation Considerations  
Discusses issues related to implementing the PPDM model, architectural methodologies used in design, or special considerations for implementation that are not related to a specific table.
- Frequently Asked Questions  
Addresses technical and business questions about the Obligations Module.
- Appendix A – Sample Queries

Provides example queries with the appropriate SQL scripts that should assist in the query process when testing the accuracy of data stored in the module.

- Appendix B – Changes to the Model

Identifies the changes in the Obligations Module from the latest version to the newest release version of the PPDM model.

# Introduction

The control and management of ongoing business functions within an organization necessitates the storage of vital information. Information is an asset; a data model is essential for managing this asset. The PPDM Version 3.5 Obligations Module is a database module designed to allow the capture of business objects as they pertain to obligations. The data structure of the obligations is broken down into sub-modules that cover:

- **Obligation Components**

The components of obligations may be associated with any or all of the following: land rights, notifications, terminations, wells, land offering bids, land right acquisitions, Business Associate service, land requests, contracts, and contract provisions.

- **Obligation General Information**

General Information includes valid obligation types, substances, cross-referencing, calculations, and parties.

- **Obligation Deductions**

Deductions stores relevant information about deductions, allowable deductions, and calculations regarding the deduction.

- **Obligation Payments**

This sub-module is specific to obligation payments, the payment details, payment rates, and payment instructions that provide for the direction of how the payment is to be made and who the payment is to be made to.

In summary, the various sub-modules address the pertinent data that is required to capture all the necessary requirements to provide for the administration of obligations. The source of obligations come from the compliance of the terms and conditions of mineral land rights, contracts, wells or other high level Business Modules that will be using this part of the database for the storage of this information.

# Business Process Overview

## Purpose

Obligations may be contractual, regulatory, statutory, or documented responsibilities. They are defined in the terms and conditions of negotiated contracts, any other legally binding agreements applicable to the maintenance of land rights, wells, or facilities or are set by regulatory agencies. Obligations require a Business Associate to perform certain duties to fulfill these responsibilities.

## Description

When complying with negotiated, documented, legislated, or regulated terms and conditions, a Business Associate must manage many types of financial and non-financial obligations. Financial obligations are the payments made for the maintenance of, operations on, and production from the land right in the manner that is stipulated in the lease agreement or any other contractual arrangements that require fulfillment.

Performances of duties are the actual actions or tasks taken or directed by a Business Associate in order to comply with the maintenance and operational commitments specified in an agreement.

Obligations are usually time sensitive and require tasks or actions to be performed to fulfill these actions before a critical date. Failure to comply with an obligation may violate the provisions of the contract or lease agreement and result in a penalty, litigation, or default condition.

## Business Processes

Obligations can be classified as either financial or non-financial (duties).

- **Financial:** These are the payments made for the maintenance of, operations on, and productions from the land in the manner that is identified in the contract.

**Maintenance Payments:** These are payments that preserve the title to the land right or contractual arrangement. Payments, such as rental or maintenance costs, do not add or subtract any value from the land right.

**Operational Payments:** These are the payments required to conduct the actual operations upon or within the land right. Payments include all the operations necessary to exploit the land rights, including the costs of exploration for and the removal, processing, and transportation of petroleum substances.

**Production Payments:** These are the payments that surround the actual substance that is removed and the division of the revenues associated with

that substance. These payments usually include taxes, production royalties, shut-in royalties, and compensatory royalties.

- **Non-Financial (Duties):** Performing duties is the actual action undertaken by or directed by the Business Associate in order to comply with the maintenance specified in the agreement.

**Operational:** These duties deal with the compliance, with terms or conditions that deal with the exploitation of the land rights. They include the actions associated with the exploration for and the removal, processing, and transportation of petroleum substances.

**Maintenance:** These duties involve the performance or direction of action that are necessary to comply with the terms or conditions that preserve the land rights in its current state. They include actions that are required for notifications, applications, regulations, or legislative requirements.

Several actions or key business tasks are applicable to most obligations. All obligations need to be identified through the review and analysis of the terms and conditions of the governing contract(s) or lease agreement. Once the review has occurred, a user records the pertinent information about that obligation in order to support its administration. Dates, descriptions, responsibility for, and necessary duties required to fulfill the obligation are types of information necessary.

More than one duty that may be applicable to the same obligation. Some obligations are one-time obligations, and others are reoccurring. For reoccurring obligations, it is important to capture the frequency that it occurs so it can be monitored. The fulfillment of one obligation may trigger the requirement to fulfill a new obligation. For example, it may be the responsibility of a Business Associate to send out termination notifications to the applicable Business Associates in a case where a land right has come to the end of its natural expiry and applications for continuation are unsuccessful.

Tracking and reporting of unfulfilled obligations are a large part of daily maintenance. Monthly rental and/or royalty payments are required to ensure that the term of the land rights does not become void.

If the land right or contractual arrangement has been relinquished then obligations to ensure you have fulfilled the appropriate release conditions are necessary.

Failure to meet an obligation can have serious ramifications and could result in the loss of land rights or production revenue. If this occurs, a Business Associate may suffer loss of the initial investment and any operational costs that were expended. Additional costs may also be incurred if the failure to meet obligations results in litigation by another Business Associate affected by the error.

# Integration

Integration is an integral part of the model. Special considerations must be made in order to ensure that the components of the model work together correctly. For example, the OBLIGATION COMPONENT table integrates the required obligations within other PPDM Business Modules with the Obligations Module. Although the Obligations Module can be used by *all* of the other PPDM Business Modules, currently the Obligations Module must be integrated with the following modules in the Version 3.5 PPDM data model:

- Land Mineral Rights Module
- Contracts Module
- Well Module
- Seismic Module

Please contact PPDM to inquire about the availability and status of reference guide for these modules.



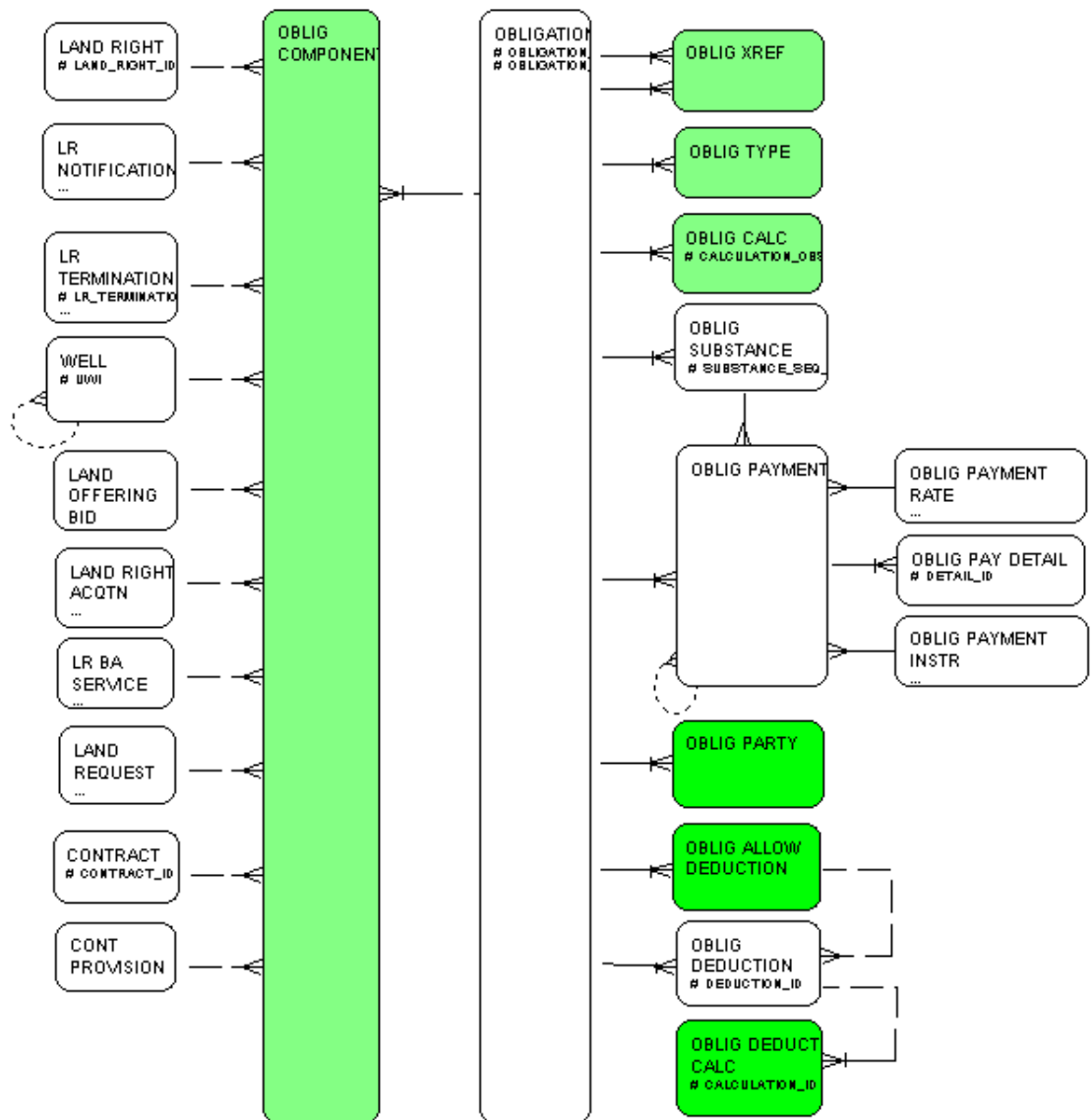
# Model Overview

## Entity Relationship Diagram

The diagram on the following page uses the following color conventions for entities and table projections:

- **White boxes:** This entity represents a table that existed in a previous version of PPDM. Changes or additions may have been made to the table definitions. White boxes that contain yellow boxes or that are contained by yellow boxes are not projected as tables in PPDM version 3.5.
- **Green boxes:** This entity represents a table that is new for PPDM version 3.5.
- **Yellow boxes:** This entity represents a table in a super\_sub type set (entities that are contained in other entities) that is projected. The white box that either is within the yellow box, or that contains the yellow box is not projected as a table in PPDM version 3.5.
- **Red boxes:** These represent tables that existed in a previous version of PPDM that were deleted in version 3.5.
- **Pink boxes:** These represent tables that are under discussion by the work groups and may change significantly or disappear.

## Obligations Module Entity Relationship Diagram



## Discussion

In PPDM version 3.4, obligations could only be associated with a Land Right (such as a lease, unit, or agreement). Development of PPDM version 3.5 has expanded the scope of obligations to allow them to be driven by Land Rights or contracts. Consequently, the Obligation Module is no longer a sub-component of the Land Right module, but is a business module in itself. Relationships between an obligation and the business objects that drive it or are created as the obligation is fulfilled are captured in the OBLIG\_COMPONENT table.

The OBLIGATION table is used to describe all types of obligations, whether they are financial in nature or work related (performance of some duty). Rental obligations, royalty payments, drilling of wells in compliance with acquisition requirements, and providing other services are all good examples of various types of obligations. Because failure to fulfill all the terms of an obligation can have dire consequences, companies go to great lengths to ensure that they have good processes in place to support full compliance.

Some kinds of obligations must be fulfilled once to meet all requirements; others must be completed according to a schedule, such as an annual rental payment. Still others must be met according to terms specified in a contract or a government regulation. Terms of an obligation may state that an obligation must be fulfilled by a certain date or within a defined period of time after a condition has been met. PPDM version 3.5 supports storage of these details in the OBLIGATION table and its subordinate tables.

Details about how an obligation payment is to be calculated, and the deductions that can be made from an obligation payment, are captured in the OBLIG\_CALC, OBLIG\_ALLOW\_DEDUCTION, OBLIG\_DEDUCTION, OBLIG\_DEDUCT\_CALC and OBLIG\_SUBSTANCE tables. Internationally, the specific details required to support the calculation and payment of obligations are highly varied. To support the flexibility needed these tables are generally vertical in nature, allowing the user to define the types of values that must be stored.

Payment of financial obligations is handled in the OBLIG\_PAYMENT table with support from OBLIG\_PAY\_DETAIL, OBLIG\_PAYMENT\_RATE and OBLIG\_PAYMENT\_INSTR. Together, these tables allow you to take a total financial payment and capture details about the Burden Bearer relationships (who paid or received what portion of the total payment) and various types of deductions or other costs, such as taxes. Check details and Direct Payment instructions can also be captured.

Complex relationships between obligations often exist. For example, company ABC may be subject to a \$1000.00 annual rental for a lease they obtained on a parcel of land for 5 years. To share the costs of exploration, ABC may form a partnership with XYZ on a portion of this land. In this case, a portion of all the costs associated with the Lease will be administered at the level of the partnership (and the Land Granted Right that is created to describe the land right

held by the partnership). The OBLIG\_XREF table handles capturing the relationships between these obligations.

# Tables and Columns: Obligations

## OBLIGATION

An obligation is a condition or commitment that must be fulfilled in order to satisfy the terms of an agreement. There are many types of obligations; in some cases the fulfillment of an obligation may require a change to the contract, e.g., offset obligation, work commitment, etc. Obligations may be financial (such as rental payments) or non-financial (such as drilling, reporting, etc).

ACTIVE\_IND should be set to Y when the obligation has been triggered and there are requirements to be met. If an obligation has not yet been triggered, or if the conditions of the obligation have been met in full, this flag may be set to N. Obligations that have been permanently fulfilled may be flagged by setting FULFILLED\_IND to Y.

POTENTIAL\_OBLIGATION\_IND should be set to Y if an agreement specifies that an obligation will be triggered by an event that is expected to happen over the lifetime of the agreement. An example could be a Gross Overriding Royalty (GOR) that must be paid to a party after the expenses for drilling have been paid back to the Operator. TRIGGER\_METHOD can be used to indicate the process by which the obligation is triggered (such as drilling cost recovery). Use POTENTIAL\_OBLIGATION\_DESC to insert a description of the obligation trigger, or a script or procedure that may be run to determine whether the obligation has been activated.

## OBLIGATION\_COMPONENT

Effectively, this table provides the functionality of a set of “many to many” association tables (breakout tables). Use this table to associate the obligation with any PPDM object that may drive or have a relationship to the obligation. Obligations may be owned by land rights, contracts (or provisions in contracts), land posting requests, land offering bids, terminations, notifications, land right BA services, land right acquisitions, or wells.

Care should be used when populating this table to ensure that multi-component foreign keys are populated as a single set of values. For example, the JURISDICTION column in this table exists because it is a component of the Foreign Key from LAND\_OFFERING\_BID. If you populate JURISDICTION without also populating all the other columns in that constraint, the constraint will fire, and corrupt data may enter the database undetected.

## OBLIG\_ALLOW\_DEDUCTION

This table is used to list the deductions that may be made from the overall payment of an obligation. Usually, the allowable deductions are listed in a

contractual agreement. For example, operators may be permitted to deduct a portion of their operating costs from the payments made to their partners.

## OBLIG\_CALC

Use this table to track the method and formula used to calculate the obligation amount that is due. While many databases and systems provide capability to track explicit values in individual columns, the work group found that the number of columns required was very large internationally. To support the requirements this table is vertical in nature.

## OBLIG\_DEDUCTION

This table describes an actual deduction made from a payment. The table of allowable deductions (OBLIG\_ALLOW\_PAYMENT) should support the deductions that are actually made.

## OBLIG\_DEDUCT\_CALC

Use this table to track the method and formula used to calculate the deduction amount that was made. While many databases and systems provide capability to track explicit values in individual columns, the work group found that the number of columns required was very large internationally. To support the requirements the initial draft of this table is vertical in nature.

## OBLIG\_PARTY

Business Associates involved with non-financial obligations may be tracked in this table. Details about the specific roles and activities undertaken can be tracked, in addition to information about whether the party provided the work or it was provided to him or her.

## OBLIG\_PAYMENT

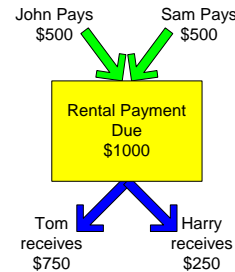
A land right obligation payment is the rental or other payment amount paid by the maintainer to the lessor on behalf of the lessees over the lifetime of the land right.

PAYMENT\_IND is used to indicate whether a row in the table captures whether a payment was dispersed or received for an obligation.

PARTY\_TYPE may be used to capture the Burden Bearer relationship between payers and payees of the obligation. The PERCENT\_OF\_GROSS payment column can be used to indicate how much of the obligation is borne or received by each party.

For example, John and Sam are partners (each with 50% working interest) in an agreement. Tom and Harry jointly own sections of land (75% and 25%, respectively) that John and Sam have leased. The rental payment for the lease is \$1000.00 per year. Of that rental payment:

- John pays \$500.00.
- Sam pays \$500.00.
- Tom receives \$750.00.
- Harry receives \$250.00.



## OBLIG\_PAYMENT\_INSTR

The payment instructions provide directions for direct transfer of funds, banking instructions, and other payment information as necessary for the automated generation of payments.

## OBLIG\_PAYMENT\_RATE

This table can be used to track agreed upon or legislated rates of payment for obligations. Rates may be monthly rental rates, tax withholding percentages, or other types of schedule fees as required.

## OBLIG\_PAY\_DETAIL

This table captures the breakdown of the detail of checks that are written. The full amount of the check, the payee, and the percentage of the total cost of the obligation may be captured in this table.

## OBLIG\_SUBSTANCE

Substances that may be taken in kind are captured in this table. The EXCLUDED\_IND and INCLUDED\_IND flags may be used to explicitly list substances that may be taken in kind or not. Over time, the substances included or excluded from the agreement may change; use SUBSTANCE\_SEQ\_NO to version the information, retaining the old information for historical purposes.

## OBLIG\_TYPE

Each obligation may be classified in more than one way. The OBLIGATION table allows you to track the primary type of the obligation (such as lease rental or royalty payment). This table allows additional classifications for each obligation to be captured.

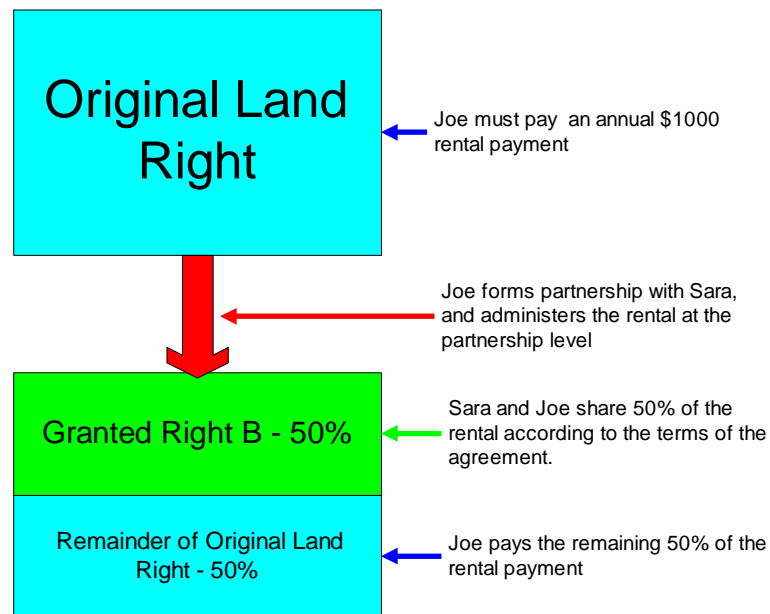
## OBLIG\_XREF

This table allows obligations to be associated with related obligations. It can be used in many ways, depending on your business requirements.

- An obligation specified in one agreement may comprise a portion of a higher level obligation specified in another agreement.
- A complete obligation (such as a rental payment) may be managed and tracked for different land rights than the one the original obligation is tied to.

For example: Joe leases some land from the government. His yearly rental for the lease is \$1000.00. He then forms a partnership with Sara on part of the land and decides to administer the lease payment through the partnership. Several related obligations have been formed:

- the gross obligation on the LAND LEASE (\$1000.00 per year)
- the portion of the obligation assigned to the LAND RIGHT that is a portion of the original LAND LEASE. Usually, this would be called a LAND GRANTED RIGHT.
- the remaining portion of the gross obligation that is not covered by the partnership with Sara.





# Implementation Considerations

## Constraints in PPDM

Starting with PPDM version 3.3, PPDM has enforced referential integrity through the use of constraints. The improper use of constraints when adding, changing, or deleting information in the database may have a profound impact on your data.

For example, PPDM has implemented many multi-component constraints. In these cases, *all* columns that comprise the constraint must be populated for the constraint to fire. If only some of the columns are populated, the constraint will not fire, and corrupt data will enter the database undetected.

For more information about the use of constraints in PPDM, refer to the PPDM Constraints User Guide.

## Check Constraints

PPDM Version 3.5 makes use of check constraints in rare cases where the values that may be input for a column are known at design time and will not change over time. Two types of uses are observed in PPDM 3.5.

- Where the column name is %\_IND, the column is an indicator field, and the values may only be Y, N, or null.
- Super-sub type implementations use check constraints to enforce the integrity of the super-sub type relationship. Currently these relationships are in use for PDEN and LAND\_RIGHT.

Let's use LAND\_RIGHT as an example. This structure consists of a parent table (LAND\_RIGHT) and seven sub-type tables (LAND\_TITLE, LAND\_LEASE, LAND\_GRANTED\_RIGHT, LAND\_AGREEMENT, LAND\_AGREE\_PART, LAND\_UNIT and LAND\_UNIT\_TRACT). Each of the eight tables has a two-part primary key: LAND\_RIGHT\_ID and LAND\_RIGHT\_TYPE.

LAND\_RIGHT\_ID is assigned by the user and can have any value as long as it is unique for that LAND\_RIGHT\_TYPE. LAND\_RIGHT\_TYPE was designed to maintain the integrity of the super-sub type structure and can only have the values assigned to it by check constraints; these values are the table names of the seven valid sub-types. In LAND\_RIGHT, the LAND\_RIGHT\_TYPE can have any of the seven table names, but in each of the sub-types, it can only have the name of the table it is owned by.

## Currencies in PPDM

Costs in PPDM may originate in any valid Unit of Measure (UOM), such as USD, \$CDN, YEN, etc. However, to ensure that queries for retrieval and

reporting are efficient, it is desirable to convert all original currencies to a standard unit of measure for storage in the database. PPDM supports the requirement to restore the original value in the following way:

- Convert all stored currencies to a single currency type, such as US dollars.
- CURRENCY\_OUOM stores the currency in which the funds were initially received. When the stored currency is multiplied by the CURRENCY\_CONVERSION, the value of the transaction in the original currency is obtained.
- CURRENCY\_CONVERSION stores the rate applied to convert the currency to its original monetary UOM from the stored UOM. This value is valid for this row in this table at the time of conversion only. When this value is multiplied by the stored currency value, the original value of the transaction in the original currency is restored.

## Audit Columns

Each table contains five columns: SOURCE, ROW\_CHANGED\_BY, ROW\_CHANGED\_DATE, ROW\_CREATED\_BY, and ROW\_CREATED\_DATE. These columns satisfy a data auditing requirement to identify the user and date of database transactions.

Use the “CREATED” columns when you are inserting new data rows and the “CHANGED” columns when you are updating a data row. The ROW\_CHANGED/CREATED\_BY columns are usually populated using the system login id in use. ROW\_CHANGED/CREATED\_DATE is usually set to the system date of the insert or update operation. For the SOURCE column, specify where you obtained the data from. If you receive the data from Vendor A, and Vendor A received the data from Regulatory B, you should set the SOURCE to Vendor A. In some cases (such as for interpreted picks), data is created by an application. In this case, the source may be set to identify the application that created the data.

## ACTIVE\_IND

Most tables in the Land, Contracts, Interest Sets, Restrictions and Obligations modules contain a column called ACTIVE\_IND. The values for this column may be one of Y, N, or null. Maintaining information about how a business object has changed over time is an important business requirement for all these modules. To support this, mechanisms for allowing versioning have been added to many tables.

When more than one row has been created for a business object, use the ACTIVE\_IND to indicate the row that is currently active. This provides implementers with two benefits. First, when populating EFFECTIVE\_DATE and EXPIRY\_DATE it will not be necessary to populate EXPIRY\_DATE with a

false future date to indicate that the row of data has not expired yet. Second, queries can explicitly search only for rows that are active.

If this column is used for queries, as recommended (such as “find me the currently active status for this land right”), you should implement procedures to ensure that this column is always populated as either Y or N and maintained appropriately. If the column is left blank (called NULL), the query will not be consistent or reliable.

One way to populate this column would be to default the value to N if the expiry date is filled in and has already happened. Make it Y if the expiry date is empty *or* if the expiry date contains a future date.

# Frequently Asked Questions (FAQ)

*My contractual agreement with John Doe requires me to build a fence on his field. How do I store this in the database?*

Any requirement to pay a fee, submit taxes, perform work, etc., is called an OBLIGATION in PPDM. Building a fence is a work obligation.

- Create an OBLIGATION to track the requirement to build a fence.
- OBLIGATION\_CATEGORY should be 'WORK' or 'NON\_PAYMENT'
- OBLIGATION\_TYPE could be 'BUILD\_FENCE'
- DESCRIPTION should contain a short description of the obligation (i.e., "The fence must be 6 feet high, chain link.")
- FULFILLED\_IND is set to Y when the fence is built, inspected, and approved.
- FULFILLED\_DATE can be set to the date when the owner signed off on the fence.

*If I acquire a lease, and later divide my lease to create different partnerships for portions of the lease, how do I ensure I have the information to charge my partners for their share of the rental fee?*

1. Add rows to LAND\_RIGHT for the lease and the portions of the lease you need to keep track of.

Each occurrence of lease and portion of a lease you are interested in is represented by a row in the LAND\_RIGHT table.

**Hint:** Tracking this information will be easier if you make sure that the sum of all the portions of the lease equals the entire lease.

2. For each row in the LAND\_RIGHT table, instantiate the LAND\_RIGHT\_TYPE as either LAND\_LEASE (the entire lease) or LAND\_GRANTED\_RIGHT (portion of the lease).
3. For each row you create in the LAND\_RIGHT table, also create a row for the appropriate sub-type table. Create a row in the LAND\_LEASE table (LAND\_RIGHT\_TYPE = LAND\_LEASE) and rows in the LAND\_GRANTED\_RIGHT (LAND\_RIGHT\_TYPE = LAND\_GRANTED\_RIGHT) table to correspond to each of the LAND\_RIGHTS you created.

4. Use LR\_XREF to relate each LAND\_GRANTED\_RIGHT to the correct LAND\_LEASE.
5. Create the BA\_INTEREST\_SET and BA\_INT\_SET PARTNER tables to indicate all partners and their rental interest. Associate the LAND\_RIGHTS to the BA\_INTEREST\_SET using BA\_INT\_SET\_COMPONENT.
6. Add a row to the OBLIGATION table for the LAND\_LEASE describing the gross rental payment (say \$1000.00). Use the LAND\_RIGHT.RENTAL\_ALLOCATION\_IND (as N) to indicate that this row is a high-level placeholder for a rental allocation that is tracked at a more detailed level (GRANTED\_RIGHT). You do not strictly need this row unless queries demand tracking the total rental obligation for the lease.
7. Add rows to the OBLIGATION table for each LAND\_GRANTED\_RIGHT to which you need to track the rental payment split. The portion of the total rental that is to be assigned to that granted right is based on the agreements you made when you formed the granted right. Make sure that the total for the rental among all the granted right obligations is equal to the gross rental payment you have for the LEASE. (In the example, you might divide the gross rental of \$1000 as \$500 for GR1, \$300 for GR2, and \$200 for GR3.) Set the LAND\_RIGHT.RENTAL\_ALLOCATION\_IND to Y to indicate that the rentals are tracked at this level.
8. Populate the OBLIGATION\_PAYMENT table to indicate when the GRANTED\_RIGHT obligations have been paid. Since you are not tracking the LEASE obligation, it is not necessary (and would be confusing) to populate this table for the LEASE as well.
9. If you need to indicate that you have billed your partners for their share of the rental, use the BA\_INT\_SET\_PARTNER table to determine what the rental interest for each partner is and create rows in the OBLIGATION and OBLIG\_PAYMENT tables to indicate that they have paid their share back to you, using the OBLIGATION\_TYPE and PAYMENT\_IND to indicate that these rows are for money received.

*How do I track a lease rental payment that I have to make annually?*

Lease payments are a type of OBLIGATION and can be tracked in this module.

*How do I indicate the burden bearer relationship for my royalty payments?*

The OBLIG\_PAYMENT table can be used to track how much of an overall obligation is made to each of many parties and to indicate what parties shared in the cost of the payment.

*How can I ensure that land right obligations are cross-referenced to the applicable contract that initiated the obligation?*

The OBLIG COMPONENT table can be used to track both the land right and the contract that drive the obligation.

# Appendix A: Sample Queries

These sample queries have been developed based on a subset of the requirements defined and captured in the Business Requirements Document. Inevitably, there are as many ways to address the question that is asked as there are—we have tried to provide one useful example for your reference. Our intention is to give you some examples that illustrate use of the model.

Overall, there are a few fundamental issues related to queries that are relevant to nearly every Business Area:

- **Spatial or GIS queries:** Spatial queries are not thoroughly addressed in this section of the reference guide; how you deal with those depends on the spatial engine you are using. In many cases, we have avoided using spatial queries because the number of query lines needed obscures the rest of the query and makes it more difficult to read. Sometimes, we have provided a connection to a NAMED AREA rather than a lat/long box.
- **Versioning over time:** Many aspects of the oil and gas business have a strong time component. Users require information about how a business object was configured in the past, what it looks like now, and what it is expected to look like in the future (i.e., who were my partners in 1995, who are they now, and who will they be in 2005). If your queries need to address the situation as it is now, use the ACTIVE\_IND you will find in many versioned tables. This will help ensure that you do not return data that is out of date.

*When must I begin drilling for a drilling agreement or AMI?*

```
select      C.CONTRACT_ID, O.OBLIGATION_ID, O.LAND_OBLIG_TYPE,
            O.CRITICAL_DATE
  from      CONTRACT C, OBLIGATION_COMPONENT OC, OBLIGATION O
 where      C.CONTRACT_ID = OC.CONTRACT_ID
    and     OC.OBLIGATION_ID = O.OBLIGATION_ID
    and     O.LAND_OBLIG_CATEGORY = 'WORK'
    and     O.LAND_OBLIG_TYPE = 'DRILLING'
    and     C.CONTRACT_ID = '9107'
```

*What must I do to fulfill all the obligations defined in this contract?*

```
select      O.OBLIGATION_ID, O.OBLIGATION_SEQ_NO, O.DESCRPTION,
            O.LAND_OBLIG_TYPE, O.LAND_OBLIG_CATEGORY
  from      OBLIGATION O, OBLIGATION_COMPONENT OC, CONTRACT C
 where      C.CONTRACT_ID = OC.CONTRACT_ID
    and     OC.OBLIGATION_ID = O.OBLIGATION_ID
```

```

and      OC.OBLIGATION_SEQ_NO = O.OBLIGATION_SEQ_NO
and      UPPER(C.ACTIVE_IND)   = 'Y'
and      UPPER(O.FULFILLED_IND) = 'N'

```

***Do I have any ROFR clauses in this contract? Who should I send the notice to?***

```

select      C.CONTRACT_NAME, BISP.BUSINESS_ASSOCIATE
from        CONTRACT C, BA_INT_SET_COMPONENT BISC,
            BA_INT_SET_PARTNER
            BISP, BA_INTEREST_SET BIS
where       C.CONTRACT_ID = BISC.CONTRACT_ID
and         BIS.INTEREST_SET_ID = BISC.INTEREST_SET_ID
and         BIS.INTEREST_SET_SEQ_NO = BISC.INTEREST_SET_SEQ_NO
and         BIS.INTEREST_SET_ID = BISP.INTEREST_SET_ID
and         BIS.INTEREST_SET_SEQ_NO = BISP.INTEREST_SET_SEQ_NO
and         C.CONTRACT_ID = 'CA924215'
and         BIS.INTEREST_SET_TYPE = 'WI'
and         UPPER(C.ROFR_IND) = 'Y'
and         BIS.EXPIRY_DATE IS NULL

```

***Who should I have served notice to for this contract in the past?***

```

select      C.CONTRACT_NAME, BISP.BUSINESS_ASSOCIATE
from        CONTRACT C, BA_INT_SET_COMPONENT BISC,
            BA_INT_SET_PARTNER BISP, BA_INTEREST_SET BIS
where       C.CONTRACT_ID = BISC.CONTRACT_ID
and         BIS.INTEREST_SET_ID = BISC.INTEREST_SET_ID
and         BIS.INTEREST_SET_SEQ_NO = BISC.INTEREST_SET_SEQ_NO
and         BIS.INTEREST_SET_ID = BISP.INTEREST_SET_ID
and         BIS.INTEREST_SET_SEQ_NO = BISP.INTEREST_SET_SEQ_NO
and         '01-JAN-97' BETWEEN BIS.EFFECTIVE_DATE AND
            BIS.EXPIRY_DATE
and         UPPER(BIS.INTEREST_SET_TYPE) = 'WI'
and         UPPER(C.ROFR_IND) = 'Y'
and         C.CONTRACT_ID = 'CA41230'

```

***By business associate, what is the breakdown for the payment of the rental fees?***

```

select      OP.PARTY_ID, LR.LAND_RIGHT_ID, OP.LAND_RENTAL_TYPE,
            OP.GROSS_COST
from        LAND_RIGHT LR, OBLIGATION_COMPONENT OC, OBLIG_PAYMENT
            OP, OBLIGATION O

```



```

where      OC.LAND_RIGHT_ID = LR.LAND_RIGHT_ID
and        OC.LAND_RIGHT_TYPE = LR.LAND_RIGHT_TYPE
and        OC.OBLIGATION_ID = OP.OBLIGATION_ID
and        OC.OBLIGATION_SEQ_NO = OP.OBLIGATION_SEQ_NO
and        O.OBLIGATION_ID = OP.OBLIGATION_ID
and        O.OBLIGATION_SEQ_NO = OP.OBLIGATION_SEQ_NO
and        OC.OBLIGATION_ID = O.OBLIGATION_ID
and        OC.OBLIGATION_SEQ_NO = O.OBLIGATION_SEQ_NO
and        O.LAND_OBLIG_TYPE = 'RENTAL'
and        UPPER(LR.ACTIVE_IND) = 'Y'
and        OP.PARTY_TYPE = 'PAYEE'
order by   OP.PARTY_ID

```

***What is the calculation of the GOR on each of my leases? Is it based on all or part of production?***

```

select      LR.LAND_RIGHT_ID, OC2.CALCULATION_FORMULA,
            OC2.CALCULATION_METHOD
from        OBLIGATION O, LAND_RIGHT LR, OBLIGATION_COMPONENT OC,
            OBLIG_CALC OC2
where       OC.LAND_RIGHT_ID = LR.LAND_RIGHT_ID
and         OC.LAND_RIGHT_TYPE = LR.LAND_RIGHT_TYPE
and         OC.OBLIGATION_ID = OC2.OBLIGATION_ID
and         OC.OBLIGATION_SEQ_NO = OC2.OBLIGATION_SEQ_NO
and         O.LAND_OBLIG_CATEGORY = 'ROYALTY'
and         O.LAND_OBLIG_TYPE = 'GOR'
and         LR.LAND_RIGHT_TYPE = 'LAND LEASE'

```

Comments: This can be used to see how to calculate the GOR. To actually determine what the GOR should be, the calculation formula should be run. The formula will also indicate what portion of production the GOR is based on.

***Have all necessary land right obligations been met?***

```

select      LR.LAND_RIGHT_ID, LR.LAND_RIGHT_TYPE,
            O.LAND_OBLIG_TYPE,
            O.LAND_OBLIG_CATEGORY
from        LAND_RIGHT LR, OBLIGATION_COMPONENT OC, OBLIGATION O
where       OC.LAND_RIGHT_ID = LR.LAND_RIGHT_ID
and         OC.LAND_RIGHT_TYPE = LR.LAND_RIGHT_TYPE
and         O.OBLIGATION_ID = OC.OBLIGATION_ID
and         O.OBLIGATION_SEQ_NO = OC.OBLIGATION_SEQ_NO

```

Comments: This query shows all the obligations in the database. To limit it to a single land parcel, add: 'and lr.land\_type\_id = '&value'.

### *What obligations will I incur for this LAND GRANTED RIGHT?*

```
select      LR.LAND_RIGHT_ID, LR.LAND_RIGHT_TYPE,
            O.LAND_OBLIG_TYPE,
            O.LAND_OBLIG_CATEGORY, O.FULFILLED_IND,
            O.FULFILLED_DATE,
            O.FULFILLED_REMARK
from        LAND_RIGHT LR, OBLIGATION_COMPONENT OC, OBLIGATION O
where       OC.LAND_RIGHT_ID = LR.LAND_RIGHT_ID
and         OC.LAND_RIGHT_TYPE = LR.LAND_RIGHT_TYPE
and         O.OBLIGATION_ID = OC.OBLIGATION_ID
and         O.OBLIGATION_SEQ_NO = OC.OBLIGATION_SEQ_NO
and         LR.LAND_RIGHT_TYPE = 'LAND GRANTED RIGHT'
```

Comments: A land granted right is a portion of a lease, segmented for some business purpose such as formation of a partnership.

### *Determine whether an obligation has been triggered*

```
select      LR.LAND_RIGHT_ID, LR.LAND_RIGHT_TYPE,
            O.LAND_OBLIG_TYPE,
            O.LAND_OBLIG_CATEGORY, O.POTENTIAL_OBLIGATION_IND
from        LAND_RIGHT LR, OBLIGATION_COMPONENT OC, OBLIGATION O
where       OC.LAND_RIGHT_ID = LR.LAND_RIGHT_ID
and         OC.LAND_RIGHT_TYPE = LR.LAND_RIGHT_TYPE
and         O.OBLIGATION_ID = OC.OBLIGATION_ID
and         O.OBLIGATION_SEQ_NO = OC.OBLIGATION_SEQ_NO
and         OC.BUSINESS_ASSOCIATE = 'MYCOMPANYCODE'
and         O.TRIGGER_METHOD IN
```

Comments: This query looks at TRIGGER\_METHOD in the OBLIGATION table. This can be changed to reflect any of the values stored in the R\_OBLIG\_TRIGGER reference table.

### *What obligations are in the land right? (ID= BC5109823) What is the type of obligation, critical dates, frequency of occurrence, description?*

```
select      LR.LAND_RIGHT_ID, OC.OBLIGATION_ID,
            OC.OBLIGATION_SEQ_NO,
            O.CALCULATION_METHOD, O.CRITICAL_DATE,
            O.EFFECTIVE_DATE,
            O.OBLIGATION_FREQUENCY, O.EXPIRY_DATE,
            O.LAND_OBLIG_TYPE, O.DESCRPTION
```

```

from      LAND_RIGHT LR, OBLIGATION_COMPONENT OC, OBLIGATION O
where     LR.LAND_RIGHT_ID = OC.LAND_RIGHT_ID
and       LR.LAND_RIGHT_TYPE = OC.LAND_RIGHT_TYPE
and       OC.OBLIGATION_ID = O.OBLIGATION_ID
and       OC.OBLIGATION_SEQ_NO = O.OBLIGATION_SEQ_NO
and       LR.LAND_RIGHT_ID = 'BC5109823'

```

Comments: This is a pretty open ended question—we have provided some details, but others may be of interest to you.

*List the partners I am in penalty with right now.*

```

select    INTEREST_SET_ID, INTEREST_SET_SEQ_NO
from      BA_INT_SET_PARTNER
where     PENALTY_IND = 'Y'
and       ACTIVE_IND = 'Y'

```

*How much of the PNG production for the unit is allocated to this tract?*

```

select    TRACT_FACTOR
from      LAND_UNIT_TRACT LUT, LR_UNIT_TRACT_FACTOR LUTF,
          LAND_UNIT LU
where     LUT.LAND_RIGHT_ID = LUTF.LAND_RIGHT_ID
and       LUT.LAND_RIGHT_TYPE = LUTF.LAND_RIGHT_TYPE
and       LU.LAND_RIGHT_ID = LUT.LAND_RIGHT_ID
and       LU.LAND_RIGHT_ID = LUT.LAND_RIGHT_ID
and       LU.LAND_UNIT_NAME = 'NORTHWEST OIL'
and       LUTF.SUBSTANCE_ID = 'PNG'
and       LUTF.ACTIVE_IND = 'Y'

```

*What wells are contributing on this lease (ID = 512741)? And are my spacing units complete?*

```

select    UWI, GAS_PERCENT_PSU, OIL_PERCENT_PSU,
          SPACING_COMPLETE_IND
from      LAND_RIGHT_WELL
where     LAND_RIGHT_ID = '512741'

```

*What obligations are due in the next three months?*

```
select      LAND_RIGHT_ID, LAND_OBLIG_CATEGORY, LAND_OBLIG_TYPE,
            O.EFFECTIVE_DATE
  from      OBLIGATION O, OBLIGATION_COMPONENT OC
 where     O.OBLIGATION_ID = OC.OBLIGATION_ID
    and    O.OBLIGATION_SEQ_NO = OC.OBLIGATION_SEQ_NO
    and    O.EFFECTIVE_DATE BETWEEN SYSDATE AND
            ADD_MONTHS(SYSDATE, 3)
    and    O.FULFILLED_IND = 'N'
    and    O.ACTIVE_IND = 'Y'
```

*Has notification to the partner been served regarding the expiry or surrender of the contract (ID = MB01235)?*

```
select      C.CONTRACT_NAME, LNP.BUSINESS_ASSOCIATE,
            LNP.SERVED_DATE
  from      LR_NOTIFIC_PARTY LNP, LR_NOTIFICATION LN, CONTRACT C
 where     C.CONTRACT_ID = LN.CONTRACT_ID
    and    LN.NOTIFICATION_ID = LNP.NOTIFICATION_ID
    and    LN.CONTRACT_IND = 'Y'
    and    C.CONTRACT_ID = 'MB01235'
```

# Appendix B: Changes to the Model

The PPDM Association has made a concerted effort to reduce the impact of new model development on members who are using other versions of PPDM. However, any new development is accompanied by some changes. Arriving at a model that is sufficiently detailed to meet the business needs of every member and yet flexible or abstract enough to be shielded from the corporate or regulatory variations is complex, but achievable. Every attempt is made to ensure the model complies with, but is relatively independent, of specific jurisdictional requirements, changes in government policy, regulations, or structure that may at times invalidate portions of the model. Internal re-engineering of business processes in industry companies may impact business requirements, which drive the data model. Rapid technological changes may also affect the model structure.

This section is to identify all applicable changes from the latest version to the newest release version to assist the members in an ease of transition to implement the latest version of the PPDM model.

## Changes Between Versions 3.4 and 3.5

In PPDM version 3.4, obligations could only be associated with a land right (such as a lease, unit, or agreement). Development of PPDM version 3.5 has expanded the scope of obligations to allow them to be driven by land rights or contracts. Consequently, the Obligation Module is no longer a sub-component of the Land Right module, but is a business module in itself. Relationships between an obligation and the business objects that drive it or are created as the obligation is fulfilled are captured in the OBLIG\_COMPONENT table.

The Business Requirements that provided the impetus for model growth were documented by the work groups (Land) during the business requirements gathering phase of development. The Business Requirements Document is available to members of the association.

For a detailed enumeration of changes, additions, and deletions refer to the Data Mapping document, provided with the PPDM 3.5 release documentation.