PPRS Redevelopment
(Petroleum Production Reporting System)
High Level Specification / Quick Start Guide

December 2017, Rev 4
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1. STATEMENT OF INTENT

The following is the statement of intent that was sent to operators in mid 2016.

In Q2 2017, the Oil and Gas Authority (OGA) will launch its refreshed Petroleum Production Reporting System (PPRS) which will place the reporting system into the Energy Portal, resulting in improved functionality and capability and aid and inform the OGA’s Asset Stewardship model.

The current reporting system, PPRS 2000, collects monthly data from the reporting of hydrocarbon production from both onshore and offshore fields and terminals in the UK Continental Shelf (UKCS). This data is submitted by operators by email to the OGA, loaded to PPRS and then placed in the public domain on the OGA’s website after three months.

The new system, which will supersede PPRS 2000, is an enhanced solution and will enable data to be uploaded directly by the operator into the application, therefore simplifying the process for both the operator and the OGA. The main changes are:

- A new interface for operators to load monthly data straight to the new PPRS application. Three methods will be provided:
  - XML upload
  - Web service
  - Online form upload
- Standard data validation rules to ensure high quality data
- New accountability and processes for data quality and data submission
- Enhanced tools for the OGA to monitor data quality and data submissions
- Some changes to the definitions of reporting units
- Improved reporting via the OGA web site

The new PPRS solution will provide significant advantages for operators:

- more flexible options for operators to load the data
- allow instant access to the status of each return
- reduce the time required to load, QC data and provide corrections if needed
- provide automated reminders to alert operators when actions are required

The revision to PPRS is an objective of the OGA’s Information Management Strategy and Delivery Programme. Information and data play a significant role in the UK’s oil and gas industry. Access to comprehensive, good quality data is critical to the success of the MER UK Strategy.

Operators can expect to receive invites to information sessions during March. Testing will be completed in May before the system goes live later in Q2.

Any queries on the updates being made to PPRS should be directed to Cindy Wood (PPRS_Support@ogauthority.co.uk)
2. INTRODUCTION

The new PPRS system will provide a dashboard for operators to allow them to view their due returns as well as submit data to the OGA.

The main reasons for the introduction of this new solution are:

- OGA requirements have changed
- New technologies allow more flexibility when submitting data
- The OGA wish to implement a more intuitive and easy to use solution

The main new features include:

- New data attributes and reporting unit types
- A new interface based on the Energy Portal
- New ways to submit data
- Enhanced QC and validation rules
- Better tracking of submissions and a notifications system

Expectations

OGA have some key expectations. These are defined in more detail in this document, but a summary of these are:

- Data should be submitted by the 25th of the month.
- A small number of additional data attributes are being requested and these will be mandatory from Sep 2017.
- Operators must notify the OGA of upcoming field or terminal start ups
- Data quality must be of the best possible quality.

2.1 Common Terms

1. Field – An oil or gas field as defined by OGA’s field determination process, or a defined development area within a determined field as defined by OGA’s system of record (currently DEVUK)
2. Terminal – An onshore facility which is the destination of oil or gas from a field.
3. Asset – A platform or installation in a field
4. Reporting Unit – Either a field, terminal or other entity that is reported on.
5. Return – A document containing information about production of a reporting unit in a month.
6. Operator – A company that operates a reporting unit that provide returns to OGA.
3. REPORTING UNITS

A reporting unit represents an entity within the UK Continental Shelf (and onshore) that is required to submit production returns through PPRS. Generally, a reporting unit corresponds to a terminal, field, hub, pipeline, or onshore well however there are exceptions (different parts of a field may have different operators, also we have some legacy reasons for exceptions).

3.1 Return Types

Each reporting unit will have a return type associated with it. There are a possible 8 return types. These are:

1. Field reporting units
   a. P – Oil field exporting to pipeline
   b. OTL – Offshore tanker loader
   c. T – Onshore oil field
   d. G – Dry gas field
2. Well reporting units
   a. W – Onshore well (unconventional)
3. The three existing return types for terminals
   a. O – Oil pipeline terminal
   b. A – Associated gas terminal
   c. D – Dry gas terminal

Each return type will have a defined structure that the returns will have and a set of validation rules for the data in the return. These are defined in the appendices of this document.

There are changes to the return types of reporting units for the previous PPRS2000 solution. The return type, “T - Onshore oil field and offshore oil tanker,” has been split into “T –
Onshore oil field” and “OTL – Offshore tanker loader.” There’s also a new return type: “W - Onshore well.”

3.2 Reporting Periods

Operators will provide returns for each month a reporting unit is active for. This period is known as the reporting period. The deadline for returns will be the 25th of the month following the reporting period. New reporting units should be created in advance of first production, as a guideline, this should be three months. In the event a reporting unit is transferred between operators midway through a reporting period, the new operator will be responsible for providing the return for that reporting period.
4. OPERATOR SCREENS OVERVIEW

This section provides an overview of the available functionality, section 5 provides a quick guide to the use of the solution.

4.1 Operator Dashboard

![Operator Dashboard](image)

Figure 4.1.1: Example dashboard for the operator Repsol

To alert operators to returns that require their attention, the first screen they will be presented with once accessing PPRS is the operator dashboard. This dashboard will present a list of returns that require attention so that operators know exactly what is required of them.

There are a few actions that the operator can perform on this page:

1. Clicking “View or Update Return” will bring them to the “View Return” screen
2. Clicking the “Upload Multiple Returns” link will take them to the screen in 4.1.1.

There are also several links that operators will have access to in the PPRS dropdown in the navigation bar.

1. **Dashboard** – This link will take them back to their dashboard as seen in Figure 4.1.1.
2. **Returns** – This link will take the operator to a complete list of returns as seen in figure 4.4.1
3. **Reporting Units** – This link will take the operator to a search screen that will allow them to view standing data related to their reporting units.
To cater for operators that have large numbers of returns prepared in XML, the multi-upload screen will allow them to upload them all at once. This screen has a few features (as shown in figure 4.1.2):

1. The operator can drag and drop up to 30 XMLs into this window before clicking “Submit Returns”
2. The operator can select “Choose returns” to browse for their XMLs before clicking “Submit Returns”.

### 4.2 View Return

The return screen provides an overview of a return’s status. From here an operator will be able to submit, fill out and update their return. They can also view a history of automated emails PPRS has sent regarding that return as well as a submission history.
The actions that an operator can perform on this page are:

1. Upload an XML return
2. Start or resume a web form submission
3. Correct an XML based submission using a web form
4. Copy and edit previous submissions
5. Download submitted returns

### 4.3 Return Forms

There will be 3 submission methods for returns in the new PPRS. The first will be by uploading XML file uploads to the PPRS system via a screen (shown in figure 4.1.2). The second will be by filling out an online form for the specific report (shown in figure 4.3.1). The third will be via a web service that operators can use to upload directly from their systems (see Section 8).

The new forms offer an alternative submission method that does not require an understanding of XML. Guidance will also be provided in the form of field descriptions and hover-over information icons.

![Figure 4.3.1: An example submission form for a dry gas field](image)

There will be a submission form for each return type that a reporting unit may have. Each form will have different data capture requirements. The forms will be broken down into related sections.

Once the forms are filled out, a preview will be shown with any validation errors for each field shown. There are two levels of validation errors, orange and red. The user can choose to submit the form with orange level errors. They will be prevented from submitting the return if red level errors are present.
4.4 Returns Overview

The returns overview screen will provide a paginated list of all the operator’s returns. This list can be filtered on status, reporting unit and period. This will allow operators to update returns that they have submitted, view older returns as well as view any due returns.

4.5 Reporting Units

Operators will be able to view any standing data for any reporting units for their organisation. This will allow operators to check the standing data and alert the OGA if there are any errors. Operators will also be able to view any returns for a reporting unit. Clicking the view link will take the user to the view return screen in figure 4.2.1.

4.6 Notifications

The application will have several notifications that are sent out to primary and secondary contacts. These will include:

- Reminders sent 5 days before a required submission
- Reminders sent every 2 days after a submission is due, but has not been submitted
- A note will be sent when data has been submitted successfully
5. QUICK START GUIDE

This quick start guide provides more detail on some of the key features of the solution, including:

- Submitting returns data
- Managing teams

5.1 Submitting a Return

5.1.1 XML Submission

To upload a return click “Upload Multiple Returns” as shown in figure 5.1.1.1

![Operator Dashboard](image)

**Figure 5.1.1.1 – Operator Dashboard**

You will then be presented with a pop up explaining that you can drag and drop files into the window or choose them from your browser.

![Upload Returns](image)

**Figure 5.1.1.2 – Multi-upload screen**
As you can see in the figure 5.1.1.3, you can upload multiple returns at once (up to 30) before clicking “Submit Returns”.

For any XMLs that

- Pass the schema validation.
- Contain data that falls within the threshold rules defined in Appendix B.

you will receive a message stating that your submission was successful.

If your XML does not pass the schema validation you will receive an error message with an explanation as to what went wrong and you will need to amend the XML.

If your XML does not pass the rule validation you will be either presented with one of two error types.

**Red Level Errors** – These must be corrected before your XML can be submitted.
Orange Level Errors – These can be overridden by providing an explanation if you believe that the data is correct.

5.1.2 Web Form Submission

Instead of uploading an XML with your return, you can now complete the data via a web form.

From the dashboard, you can click “view or Update Return” from the dashboard as shown in figure 5.1.2.1.

You can now select “Create Return via Web Form” as shown in figure 5.1.2.2.

You will be presented with a series of web forms as shown in figure 5.1.2.3.
If you enter any values that do not meet the validation rules laid out in Appendix B you will receive an error message informing you of the validation that must be met.

As shown in figure 5.1.2.5

1. Completed sections are marked with a green tick.
2. Incomplete sections, including those containing validation errors are marked with a red cross.
3. Any orange level errors are identified on the “submit Return” page and you are given the opportunity to override the error and provide an explanation before submitting the return.
5.2 Managing Teams

As a Team Coordinator, you can manage who within your organisation has access to your PPRS dashboard as well as setting their privileges.

From the PPRS menu at the top of the screen you can select “Maintain Teams” as per figure 5.1.3.1. You will only see this if you are assigned as the Team Coordinator.

As shown in figure 5.1.3.2, from the Maintain Teams screen you can:
1. Add new members to your team (they must already have a UK Energy Portal account).
2. Assign them to any of the following roles in your PPRS team.

**Team Coordinator** – Able to manage teams in PPRS.

**Primary Contact** – Primary point of contact, will receive reminder emails for due returns, cannot be a shared account.

**Secondary Contact** – Secondary point of contact, will be copied on reminder emails.

**Operator User** – Can submit returns for reporting units owned by your company group.

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**Figure 5.1.3.2** – The PPRS Maintain Teams Screen
# 6. NEW DATA ATTRIBUTES

The OGA are introducing several new attributes. The table provides a summary of these.

<table>
<thead>
<tr>
<th>Reporting Unit Type</th>
<th>Data/Stream Description</th>
<th>Data Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>P,T,OTL,W</td>
<td>Associated Gas Production</td>
<td>ASSOCIATED_GAS_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>P,T,OTL,</td>
<td>Inter Field Transfer of Associated Gas (* Repeating Group)</td>
<td>INTERFIELD_TRANSFER_OF_ASSOCIATED_GAS_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>P,T,OTL,W</td>
<td>Associated Gas to Pipeline</td>
<td>ASSOCIATED_GAS_TOPIPELINE_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>G, W</td>
<td>Dry Gas Field Production</td>
<td>DRY_GAS_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>G</td>
<td>Inter Field Transfer of Dry Gas (* Repeating Group)</td>
<td>INTER_FIELD_TRANSFER_OF_DRY_GAS_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>G, W</td>
<td>Dry Gas to Pipeline</td>
<td>DRY_GAS_TOPIPELINE_DENSITY DRY_GAS_TOPIPELINE_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>P,T,OTL,G,W</td>
<td>Gas Flared at Field</td>
<td>GAS_FLARED_AT_FIELD_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>P,T,OTL,G,W</td>
<td>Gas Vented at Field</td>
<td>GAS_VENTED_AT_FIELD_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>P,T,OTL,G,W</td>
<td>Gas Utilised in Field</td>
<td>GAS_UTILISED_AT_FIELD_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>P,T,OTL,G,W</td>
<td>Gas Injected</td>
<td>GAS_INJECTED_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>G,W</td>
<td>Gas Utilised from Inter Field Transfer</td>
<td>GAS_UTILISED_FROM_INTERFIELD_TRANSFER_NON_HYDROCARBON_GAS_CONTENT</td>
</tr>
<tr>
<td>P,T,OTL,G,W</td>
<td>Time Not producing</td>
<td>DAYS_NOT_PRODUCING HOURS_NOT_PRODUCING</td>
</tr>
</tbody>
</table>

How will we use the new data fields?

- Non-HC content of export gas will help OGA assess the impact of increasing amounts of off spec gas entering the offshore network.
- Non-HC content of produced, flared and vented gas will allow OGA and operators to compare production reported via PPRS with the maximum volumes allowed in the Consent, giving early warning of the need for a review of the Consent.
- Time not producing will give early indications of potential issues with Production Efficiency (PE) (PE is a key indicator in OGA’s annual Stewardship survey).

**NOT PRODUCING EXAMPLE**

Begin by calculating the hours not producing for the full month, then enter corresponding days/hours.

Say a field is **not** producing for 10 hours on the 1\(^{\text{st}}\) of the month, 10 hours on the 2\(^{\text{nd}}\), 10 hours on the 3\(^{\text{rd}}\) and produced for the rest of the month. In total that is 30 hours not producing.

You should be reporting 1 against the field DAYS\_NOT\_PRODUCING and 6 against the field HOURS\_NOT\_PRODUCING.
Measured vs Calculated for non-HC content?

- Non-HC gas content should be reported as a mole percentage (equivalent to a volume percentage)
- OGA expects the non-HC gas content of gas exported to pipeline to be measured according to “good oil field practice”. (OGA accepts that older platforms may not have on line chromatographs or the ability to sample routinely, in which case the field data may need to be back allocated from terminal measurements)
- OGA understands that the non-HC content of produced, flared and vented gas may be calculated rather than measured values.

**NOTE**

The new OGA PPRS solution will be able to accept these new attributes from June 25th 2017. However, they will not become a mandatory requirement until September 25th 2017.
7. WORKFLOW & VALIDATION

Figure 7.1: Returns Workflow

Figure 7.1 shows the process for submitting and accepting a return. The validation is automated and if the return fails any of the validation, the returns stays with the operator.

7.1 Validation Engine

The validation engine will check several conditions for a return.

1. Every submission will be checked to ensure a valid XML document (if using the xml method of submission).
2. Once the submission is verified as XML, the format of the XML will be checked against the XML schema definition for a return. This will check that all the fields are present and of the correct type.
3. The data contained within the fields will then be checked against the validation rules. If any of the validation rules fail, the return will be rejected unless it’s an orange level error. If this is the case, then the operators will be able to override this if they provide a comment. Examples include:
   a. **Red** – must be fixed before loading (e.g., number between a range)
   b. **Orange** – can be overridden by the submitter (e.g., tolerance of previous submission(s))

### 7.1.1 Calorific Value Thresholds

OGA and BEIS require gas calorific values for economic evaluations, as gas is traded in therms rather than volumes.

As the non-hydrocarbon content of gas is now recorded, the expected calorific value can be calculated based on the theoretical calorific value for an ideal gas. The maximum CV bound will be based on the expected CV of hydrocarbon gases no non hydrocarbon impurities. The minimum CV bound will be based on the expected CV of hydrocarbon gases mixed with the heaviest impurity: carbon dioxide gas.

The density of the mixture will also have to fall between the expected density of the lightest and heaviest mixtures – expected range is 0.65 to 2.5 kg/m³ as defined in the validation rules in appendix B.

These calculations are based on ideal gas laws. A tolerance will be added to the minimum and maximum bounds to allow for measurement and allocation uncertainties. This tolerance will be easily configurable to allow fine tuning of this validation.

![Calorific Value vs Gas gravity](image)

(showing expected "envelope" for CV and density for a given CO2 content)
Measurement Specification

- All hydrocarbons are to be reported on a water dry basis at Standard Conditions (15°C and 1.01325 bara)
- Calorific values should be Gross, and should be for the exported gas stream including non-hydrocarbon components
8. WEB SERVICE SUBMISSION

The web service submission method will allow operators that use their own systems to audit their production to upload directly to PPRS. With the PPRS application they can automatically upload these returns via this web service at the 25th of each month. Returns that are uploaded in this manner will be passed through the same validation engine as any other submission method so there is no risk that incorrect returns can be submitted in this way.

Operators must update their internal software to allow the submission of returns via web-service. Operators that do not have an existing production auditing system are advised to use the online forms to produce their returns.

The web services will function using the SOAP standard for XML exchange. There will be two web services provided. The first will be for obtaining a list of due returns; the second will be for submission of returns. These web services will be authenticated using the same credentials for the rest of the EDU portal and security rules will be put in place to make sure that operators can only submit returns if they have the correct roles. They will need to be provided in the username and password HTTP headers on the SOAP requests.
9. OPERATOR REMINDERS, SUBMISSION DATE & HELP

Email reminders will be sent out at the beginning of the following reporting period to alert operators that their returns are due for the past reporting period. Another email reminder will be sent 5 days before the end of the reporting period alerting them that their returns are still due. If the returns are not submitted in this timeframe, emails will be sent every 2 days reminding operators that their returns are overdue.

These reminder emails will contain a list of returns and their status (due, overdue or submitted) rather than having an email per reporting unit. This will reduce the amount of emails that operators are receiving from PPRS.

Once a return has been submitted on time, a confirmation email will be sent to the Operator as confirmation. This email will say which return was submitted, if it was submitted on time and which other returns are still yet to be submitted if any.

Return submissions must be made by the close of business on the 25th of each month. This change in submission date is primarily due to:

- The submission deadline to the Office of National Statistics to calculate GDP needs to be considered. BEIS need to submit numbers that are based on real data and not estimates.
- With the challenges and opportunities that exiting the EU brings, it’s vital that government and industry is in possession of the most accurate data as early as possible.

9.1 Help

The existing PPRS mailbox will cease to be operational once the new solution goes live. Instead, all help requests should be submitted through the usual UK Operations helpdesk – Email - ukop@ogauthority.co.uk

Phone – 0300 067 1682
10. REPORTING UNITS

A small number of reporting units have either changed name or have been split. The main reason for this is to ensure that we have consistency with our master data within the OGA. If names have been changed, each company will be notified of any changes before the new PPRS solution goes live.

New reporting units can only be created by OGA. An operator should request the creation of a new reporting unit ca 3 months before expected first production.

Circumstances may arise in which the operator (or operators) need to rerun their hydrocarbon allocation system and production reporting system to correct for historic misallocations. Such a reallocation may or may not require PPRS returns to be resubmitted. Revised PPRS field or well returns will be required if:

- Reported sales quantities change by more than 0.5%
- Reported produced quantities change by more than 1% for a terminal
- Reported produced quantities change by more than 2% for an individual field or well
- Reported injected, flared or vented quantities change by more than 5%

Median Line Fields

To improve consistency in reporting, and subsequently data quality, as of 1st January 2018, we will request that Operators of Median Line fields report these fields in the following way:

- All data should be reported going forward as UK Share only, not total field.
- The UK Share % attributes for Oil and Gas should be input to reflect the percentages relating to the UK Share held.

If this information is filled in correctly, this will enable us to gross up data when necessary for field performance reviews, but will prevent the ongoing requirement to manage this in our reporting tools.

Permanent cessation of Production

When a reporting unit permanently ceases production, the operator should notify OGA. PPRS will then be updated so that it will not expect further returns.
11. ACCESS CONTROL

11.1 Operators

Operators will log in using an Energy Portal login. Every reporting unit will have its own set of contacts. Management of these teams will be deferred to members of the team.

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Contact</td>
<td>This person will be the sole point of contact for the organisation. This person is accountable for all data submissions by that company. Notification emails will be addressed to this person. Please note that no generic emails will be allowed for the primary contact, we need an actual person.</td>
</tr>
<tr>
<td>Secondary Contact</td>
<td>This person will be a backup contact should the primary contact be unreachable. All notifications to the primary contact will be copied to this contact. Generic emails are allowed for secondary contacts.</td>
</tr>
<tr>
<td>Operator User</td>
<td>Many users may be in this role including the primary and secondary contacts. This user will be able to submit, update and view returns on behalf of the organisation. Security rules will be put in place to make sure that an Operator User will not be able to view, submit or update returns of other operators. This user will receive a link in the energy portal to access the operator dashboard. Users in this role will also be allowed to submit returns via the web service submission method.</td>
</tr>
<tr>
<td>Operator Team Coordinator</td>
<td>Many users may be in this role. Users in this role will be able to update and manage their team and add or remove users from their roles.</td>
</tr>
</tbody>
</table>

11.2 Responsibilities

Operators
- Responsible for submitting returns in a timely fashion
- Responsible for submitting the best possible quality data

OGA
- Undertake checks on the quality of the data
- Liaise with operators on any issues that may arise
12. HISTORIC DATA QUALITY

Within the old PPRS2000 solution, over the years, the OGA have experienced several common issues with the xml files that have been supplied. These issues are defined below and will give you a ‘heads up’ to potential issues that you will want to address prior to going live with the new system.

• **Blank values** – where there are no values given, not even “Zero” values but just blanks. At the very least we must enter zero values.

• **Inter field transfers errors** – Where only Zero values are given (see below) –

  `<INTER_FIELD_TRANSFER_OF_OIL_REPEATING_GROUP>
  `<INTER_FIELD_TRANSFER_OF_OIL>
  `<INTER_FIELD_TRANSFER_OF_OIL_VOLUME>0</INTER_FIELD_TRANSFER_OF_OIL_VOLUME>
  `<INTER_FIELD_TRANSFER_OF_OIL_DENSITY>0.0</INTER_FIELD_TRANSFER_OF_OIL_DENSITY>
  `<INTER_FIELD_TRANSFER_OF_OIL_ORIGIN></INTER_FIELD_TRANSFER_OF_OIL_ORIGIN>
  `<INTER_FIELD_TRANSFER_OF_OIL_DESTINATION></INTER_FIELD_TRANSFER_OF_OIL_DESTINATION>
  </INTER_FIELD_TRANSFER_OF_OIL>
  </INTER_FIELD_TRANSFER_OF_OIL_REPEATING_GROUP>

In the past, the OGA have corrected this, however going forward operators should provide an empty list as such:

  `<INTER_FIELD_TRANSFER_OF_OIL_REPEATING_GROUP></INTER_FIELD_TRANSFER_OF_OIL_REPEATING_GROUP>

• **Character Encoding Issues** - When submitting a return, the return may be rejected as invalid XML with no obvious error. This may be caused by a character encoding issue. Returns should be submitting with an ASCII compatible character encoding such as Unicode UTF-8 or ASCII win-1252. Please ensure the file you are uploading uses a compatible encoding.

• **System parameters** – Where a PPRS return file loads but indicates that the values on that return fall outside the validation parameters set by the system.

• **Date Format** - A lot of operators have been providing shorthand months’ names in the return date i.e. Jun, Jul, Aug. The RETURN_DATE_MONTH element should contain an integer between 1 and 12 inclusively but never alphabetical characters.
13. APPENDIX A - SUBMISSION GUIDANCE

13.1 Explanatory Notes - Fields

13.1.1 Oil Field Exporting to Pipeline

‘Oil Production’. Oil produced from an offshore Field. It will usually contain a few percent of NGLs but the revised PPRS does not seek separate values for SCO and NGLs here, only the ‘Oil Production’ by volume and density.

‘Interfield Transfer of Oil’. For oil exported by pipeline, this is when the oil is co-mingled with oil on another Installation en route to the onshore Terminal. The convention is for the donor to report a positive quantity and the recipient a negative value.

‘Oil Production to Pipeline’. Oil pipelined to an onshore Terminal.

‘Associated Gas Production’. The ‘Associated Gas Production’ is defined as the ‘Total Field wellhead Hydrocarbon Production’ less the oil that has been produced (Stream 1). Under this definition of ‘Associated Gas Production’, NGLs that will be measured with the oil in the pipeline will therefore not be included in this gas stream calculation.

‘Inter Field Transfer of Associated Gas’. Note that Inter Field Oil and Associated Gas Transfers may not necessarily go to the same other Field Unit. The convention is for the donor to report a positive quantity and the recipient a negative value.

‘Associated Gas to Pipeline’. If ‘NGL/Condensate’ drops out of the ‘Associated Gas to Pipeline’ during transportation to the Terminal, it should be reported in the PPRS as if it were still a single phase Gas. (This is different from the way Dry Gas Fields are reported).

‘Gas Flared at Field’. Gas flared, may include inert gases.

‘Gas Vented at Field’. Any gas cold vented to atmosphere, including inert gases.

‘Gas Utilised in Field’. Gas utilised during operations. Most gas utilisation is Fuel Gas, but gas can be used for other process purposes, such as stripping.

‘Gas Injected’. The Gas Injected into the Field can originate both from the Field reservoir and/or from another Field after Inter-Field Transfer.

‘Produced Water’. Water produced from each Field but there is no distinction here between native reservoir water and previously injected water.

‘Produced Water to Sea’. Does not necessarily have to be reported per Field; it can be from several Fields serviced from the same Installation and reported from there.

‘Injected Water’. In most instances this will be treated seawater, but exceptionally could be water obtained from another source.

‘Re Injected Produced Water’. The Re Injected Produced Water may not necessarily originate from the Field receiving the water.
‘Stock of Oil in Field’ at Month End. Although offshore storage with pipeline export is not typical, there are some Fields with such tanks in operation.

13.1.2 Onshore Oil Fields or Offshore Tanker Loader

‘Oil Production’. Oil produced from a Field.

‘Inter Field Transfer of Oil’. A typical example of Inter Field Transfer of Oil occurs when a FPSO vessel or equivalent hosts more than one Field. The convention is for the donor to report a positive quantity and the recipient a negative value.

‘Associated Gas Production’. The ‘Associated Gas Production’ is defined as the ‘Total Field wellhead Hydrocarbon Production’ less the oil that has been produced (Stream 1). Under this definition of ‘Associated Gas Production’, NGLs that will be measured with the oil in the pipeline will therefore not be included in this gas stream calculation.

‘Inter Field Transfer of Associated Gas’. Note that Inter Field Oil and Associated Gas Transfers may not necessarily go to the same other Field Unit. The convention is for the donor to report a positive quantity and the recipient a negative value.

‘Associated Gas to Pipeline’. If ‘NGL/Condensate’ drops out of the ‘Associated Gas to Pipeline’ during transportation to the Terminal, it should be reported in the PPRS as if it were still a single phase Gas. (This is different from the way Dry Gas Fields are reported).

‘Gas Flared at Field’. Gas flared, may include inert gases.

‘Gas Vented at Field’. Any gas cold vented to atmosphere, including inert gases.

‘Gas Utilised in Field’. Gas utilised during operations. Most gas utilisation is Fuel Gas, but gas can be used for other process purposes, such as stripping.

‘Gas Injected’. The Gas Injected into the Field can originate both from the Field reservoir and/or from another Field after Inter-Field Transfer.

‘Produced Water’. Water produced from each Field but there is no distinction here between native reservoir water and previously injected water.

‘Produced Water to Sea’. Does not necessarily have to be reported per Field; it can be from several Fields serviced from the same Installation and reported from there.

‘ Injected Water’. In most instances this will be treated seawater, but exceptionally could be water obtained from another source.

‘Re Injected Produced Water’. The Re Injected Produced Water may not necessarily originate from the Field receiving the water.

‘Stock of Oil in Tanker’ at Month End. Oil stocks in partially loaded tanks and Tankers. If the Tanker breaks moorings/ connection, the cargo is reported as a disposal.

‘Stock in Pipeline’ at Month End. Stocks in pipeline attached to offshore Tanker.

‘Total Oil Tanker Disposals’ during the Month.
'Individual Oil Tanker Disposals' during the Month. For Marine Tankers, the number of entries equals the number of individual cargoes loaded and detached from moorings. For onshore disposal, the entries will equal the number of different destinations.

13.1.3 Dry Gas Fields

'Dry Gas Field Production'. Total Field wellhead gas production. Historically, the convention is for 'Dry Gas' here to be reported as a separate Stream from the 'Condensate', which is reported separately as Stream 17.

'Inter Field Transfer of Dry Gas'. The convention is for the donor to report a positive quantity and the recipient a negative value.

'Dry Gas to Pipeline'. Dry Gas pipelined to an onshore Terminal.

'Dry Gas Field Condensate Production'. Condensate production that is measured after separation but will then be co-mingled back into the pipeline gas.

'Inter Field Transfer of Condensate'. In practice, the exceptional case where Dry Gas Fields and Oil Fields co-exist on the same Installation. The convention is for the donor to report a positive quantity and the recipient a negative value.

'Gas Flared at Field'. Gas flared, may include inert gases.

'Gas Vented at Field'. Any gas cold vented to atmosphere, including inert gases.

'Gas Utilised in Field'. Gas utilised during offshore operations. Most gas utilisation is Fuel Gas, but gas can be used for other process purposes.

'Gas Injected'. The Gas Injected into the Field can originate both from the Field reservoir and/or from another Field after Inter-Field Transfer. The Injected Gas CV is only required on those Fields that inject sales gas for storage.

'Gas Utilised from Inter Field Transfer'. A special case when gas is injected into a partially depleted gas reservoir for storage purposes. There would then be two sources of gas for utilisation, native reservoir gas and gas imported through Inter Field Transfer.

'Produced Water'. Water produced from each Field

'Produced Water to Sea'. Produced Water may be recovered from the Dry Gas offshore but, more typically, is sent onshore in the pipeline gas with no offshore discharge.

'Sales Gas to NTS'. This is for onshore Dry Gas Fields only, and not necessarily always applicable. If a number of onshore Fields transport to a gathering station, then 'Stream 9' to a Dry Gas Terminal may be the more appropriate model.

'Individual Sales Gas Non NTS'. Only applies to Onshore Fields and is the direct Gas Sales through dedicated pipelines to power stations, refineries or other end users. The number of entries will equal the number of different destinations.

13.2 Terminals
13.2.1 Oil Pipeline Terminal

‘Pipeline Oil Entering Terminal’. Pipeline Oil from offshore or onshore Fields.

‘NGLs Condensate Entering Terminal’. Where one Terminal provides process, storage and despatch facilities for a Stream of NGLs/ Condensate produced from another Terminal.

‘SCO Receipts’. This is a calculation resulting from when all the liquids entering the Terminal are designated as either SCO Receipts or NGL Receipts for DTI purposes. (This data is required on the 16th of the Month but may be revised in End of Month Report.)

‘NGL Receipts’. Calculated as for ‘SCO Receipts’ above. (This data is required on the 16th of the Month but may be revised in End of Month Report.)

‘SCO Losses’. Accounting losses of SCO across the Pipeline and Terminal system. Essentially, the difference between ‘SCO Receipts’ and oil to storage with the losses expressed in terms of final oil product rather than pipeline entry conditions.

‘Condensate and NGL Losses’. Accounting losses of NGLs across Pipeline and Terminal system.

‘SCO Stock’ at Month End. Stocks in Tanks, pipelines and partially loaded Tankers still moored at the Terminal.

‘Gas Flared at Terminal’. Gas flared, may include inert gases.

‘Gas Vented at Terminal’. Any gas cold vented to atmosphere, may include inert gases.

‘Gas Utilised in Terminal’. Gas used as Fuel and for any other purposes at the Terminal.

‘NGL Production’ during the Month. The sum of the Ethane, Propane, Butane, and C5+ Condensate to storage or directly exported.

‘Ethane Stock’ at Month End. Ethane is typically delivered direct by pipeline without storage and, in such a case, there is zero stock.

‘Propane Stock’ at Month End. Refers to both liquefied refrigerated storage and pressure storage. If propane is delivered directly into pipeline for disposal, without intermediate storage at the Terminal, a zero stock should be reported.

‘Butane Stock’ at Month End. Refers to liquefied refrigerated storage and pressure storage. If Butane is delivered directly into pipeline for disposal, without intermediate storage at the Terminal, a zero stock should be reported.

‘C5 Condensate Stock’ at Month End. If C5+ Condensate is delivered directly into pipeline for disposal without storage at Terminal, zero stock should be reported.

‘Total SCO Disposal’ during the Month. Total Stabilised Crude Oil leaving the Terminal in the Month.

‘Individual SCO Disposal’ during the Month. The individual cargoes leaving the Terminal during the Month. For Marine Tankers, the number of entries equals the number of individual cargoes loaded and detached from moorings during the Month. For Road, Rail
Tanker and pipeline disposal, the number of entries will equal the number of different destinations.

‘Total Ethane Disposal’ during the Month

‘Total Propane Disposal’ during the Month

‘Total Butane Disposal’ during the Month

‘Total C5 Condensate Disposal’ during the Month

‘Individual Ethane, Propane, Butane, and C5 Condensate Disposal’ during the Month. For Marine Tankers, the number of entries equals the number of individual cargoes loaded and detached from moorings. For Road, Rail Tanker and pipeline disposal, the number of entries will equal the number of different destinations for each product.

13.2.2 Associated Gas Terminals

If an Onshore Oil Field has surplus gas available after utilisation and flare, such gas will be deemed to then enter an Associated Gas Terminal.

‘NGLs Condensate Entering Terminal’. Where one Terminal provides process, storage and despatch facilities for a Stream of NGLs/Condensate produced from another Terminal.

‘Associated Gas Entering Terminal’. Pipeline Gas entering Terminal.

‘Condensate and NGL Losses’. Accounting losses across Pipeline and Terminal System.

‘Gas Losses’. Accounting losses across the Pipeline and Terminal system.

‘Gas Flared at Terminal’. Gas flared, may include inert gases.

‘Gas Vented at Terminal’. Any gas cold vented to atmosphere, may include inert gases.

‘Gas Utilised at Terminal’. Gas used as Fuel and for any other purpose in Terminal.

‘NGL Production’ during the Month. The sum of the Ethane, Propane, Butane, and C5+ Condensate to storage or directly exported.

‘Ethane Stock’ at Month End. Ethane is typically delivered direct by pipeline without storage and, in such a case, there is zero stock.

‘Propane Stock’ at Month End. Refers to both liquefied refrigerated storage and pressure storage. If propane is delivered directly into pipeline for disposal, without intermediate storage at the Terminal, a zero stock should be reported.

‘Butane Stock’ at Month End. Refers to liquefied refrigerated storage and pressure storage. If Butane is delivered directly into pipeline for disposal, without intermediate storage at the Terminal, a zero stock should be reported.

‘C5 Condensate Stock’ at Month End. If C5+ Condensate is delivered directly into pipeline for disposal without storage at Terminal, zero stock should be reported.
‘Total Ethane Disposal’ during the Month

‘Total Propane Disposal’ during the Month

‘Total Butane Disposal’ during the Month

‘Total C5 Condensate Disposal’ during the Month

‘Individual Ethane, Propane, Butane, and C5 Condensate Disposal’ during the Month. For Marine Tankers, the number of entries equals the number of individual cargoes loaded and detached from moorings. For Road, Rail Tanker and pipeline disposal, the number of entries will equal the number of different destinations for each product.

‘Total Mixed Condensate Disposal’ during the Month. This mixed Condensate is a Stream sent by pipeline from one Terminal that is not equipped to produce specification NGL products, to another Terminal that is.

‘Individual Mixed Condensate Disposal’ during the Month. The number of entries will equal the number of different destinations.

‘Sales Gas from UK Production’ during the Month. Gas originating from UKCS or onshore production delivered to UK customers.

‘Sales Gas from Non UK Production’ during the Month. Gas originating from Non UK supply delivered to UK customers.

‘Total Sales Gas to NTS’ during the Month. Sales Gas irrespective of origin.

‘Individual Sales Gas Non NTS’ during the Month. Sales Gas through dedicated pipelines directly to power stations, refinery, or other users. The number of entries will equal the number of different destinations.

13.2.3 Dry Gas Terminals

The OGA require all Dry Gas Terminals handling offshore gas to provide a PPRS return in order that there is full segregation of Field and Terminal reporting. One possible exception may be made for onshore Dry Gas Fields.

‘Pipeline Dry Gas Entering Terminal’. The Stream entering the Terminal but excluding the quantity of ‘Condensate’, a convention for Dry Gas Fields.

‘Dry Gas Condensate Entering Terminal’. Condensate that is carried in the Pipeline Stream co-mingled with the Dry Gas (cf.: Figure 3).

‘Gas Losses’. Accounting losses across the Pipeline and Terminal system.

‘Dry Gas Condensate Losses’. Accounting losses across Pipeline and Terminal System.

‘Gas Flared at Terminal’. Gas flared, may include inert gases.

‘Gas Vented at Terminal’. Any gas cold vented to atmosphere may include inert gases.
‘Gas Utilised at Terminal’. Gas used as Fuel and for any other purpose in Terminal.

‘Dry Gas Condensate Stock’ at Month End. Stocks of Condensate across Pipeline, Terminal system and Storage.

‘Sales Gas from UK Production’ during the Month. Gas originating from UKCS or onshore production delivered to UK customers.

‘Sales Gas from Non UK Production’ during the Month. Gas originating from Non UK supply delivered to UK customers.

‘Total Sales Gas to NTS’ during the Month. Sales Gas irrespective of origin.

‘Individual Sales Gas Non NTS’ during the Month. Sales Gas through dedicated pipelines directly to power stations, refinery, or other users. The number of entries will equal the number of different destinations.

‘Dry Gas Condensate Disposal’ during the Month. Total Dry Gas Condensate leaving Terminal.

‘Individual Dry Gas Condensate Disposal’ during the Month. For Marine Tankers, the number of entries equals the number of individual cargoes loaded and detached from moorings. For Road, Rail Tanker and pipeline disposal, the number of entries will equal the number of different destinations for each product.
### 14. APPENDIX B – ATTRIBUTES & VALIDATION RULES

#### 14.1 Field Data Attributes

**Reporting Unit Types**
- **P** – Oil Field Exporting to Pipeline
- **T** – Onshore Oil Field
- **OTL** - Offshore Tanker Loader
- **G** - Dry Gas Field
- **W** – Onshore Well

**Data Types**
- **Character (x)** = UPPER CASE ALPHANUMERIC not longer than (x) characters
- **Number (x)** = Number with no more than (x) decimal places
- **Integer** = whole number, no decimal point

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<td>Number(3)</td>
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<td>INDIVIDUAL_SALES_GAS_NON_NTS_CV</td>
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<td>HOURS_NOT_PRODUCING</td>
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</tr>
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</table>

Rule 13

Rule 9,9b

Rule 30
### 14.2 Terminal Data Attributes

#### Reporting Unit Types
- **O** – Oil Pipeline Terminal
- **A** – Associated Gas Terminal
- **D** – Dry Gas Terminal

#### Data Types
- **Character (x)** = UPPER CASE ALPHANUMERIC not longer than (x) characters
- **Number (x)** = Number with no more than (x) decimal places
- **Integer** = whole number, no decimal point

<table>
<thead>
<tr>
<th>Reporting Unit Type</th>
<th>Data/Stream Description</th>
<th>Data Item</th>
<th>Units</th>
<th>Data Type</th>
<th>Validation /Rules</th>
</tr>
</thead>
</table>
| O,A,D               | Return UK Share         | RETURN_UK_SHARE_OIL
                        |           | Number(5) | Rule 18 |
|                     |                         | RETURN_UK_SHARE_GAS
                        |           | Number(5) | Rule 18 |
| O                   | Pipeline Oil Entering Terminal | PIPELINE_OIL_ENTERING_TERMINAL_MASS | Tonnes | Integer | Rule 7 |
| O,A                | NGLs Condensate Entering Terminal | NGLS_CONDENSATE_ENTERING_TERMINAL_MASS
                        |           | Tonnes | Integer | Rule 22 |
|                     |                         | NGLS_CONDENSATE_ENTERING_TERMINAL_DENSITY | Kg/m³ | Number(1) |          |
| O                  | SCO Receipts           | SCO_RECEIPTS_MASS
                        |           | Tonnes | Integer | Rule 10 |
|                     |                         | SCO_RECEIPTS_DENSITY | Kg/m³ | Number(1) |          |
| O                  | NGL Receipts           | NGL_RECEIPTS_MASS | Tonnes | Integer | Rule 7 |
| A                  | Associated Gas Entering Terminal | ASSOCIATED_GAS_ENTERING_TERMINAL_MASS
                        |           | Tonnes | Integer | Rule 11 |
|                     |                         | ASSOCIATED_GAS_ENTERING_TERMINAL_DENSITY | Kg/m³ | Number(3) |          |
| D                  | Pipeline Dry Gas Entering Terminal | PIPELINE_DRY_GAS_ENTERING_TERMINAL_MASS
                        |           | Tonnes | Integer | Rule 11 |
|                     |                         | PIPELINE_DRY_GAS_ENTERING_TERMINAL_DENSITY | Kg/m³ | Number(3) |          |
| D                  | Dry Gas Condensate Entering Terminal | DRY_GAS_CONDENSATE_ENTERING_TERMINAL_MASS
                        |           | Tonnes | Integer | Rule 22 |
|                     |                         | DRY_GAS_CONDENSATE_ENTERING_TERMINAL_DENSITY | Kg/m³ | Number(3) |          |
| O                  | SCO Losses             | SCO_LOSSES_MASS | Tonnes | Integer | Rule 23 |
| O,A,D              | Condensate and NGL Losses | CONDENSATE_AND_NGL_LOSSES_MASS | Tonnes | Integer | Rule 23 |
| A,D                | Gas Losses             | GAS_LOSSES_MASS
                        |           | Tonnes | Integer | Rule 24 |
|                     |                         | GAS_LOSSES_DENSITY | Kg/m³ | Number(3) |          |
| D                  | Dry Gas Condensate Losses | DRY_GAS_CONDENSATE_LOSSES_MASS
<pre><code>                    |           | Tonnes | Integer | Rule 25 |
</code></pre>
<p>|                     |                         | DRY_GAS_CONDENSATE_LOSSES_DENSITY | Kg/m³ | Number(3) |          |
| O,A,D              | Gas Flared at Terminal | GAS_FLARED_AT_TERMINAL_MASS | Tonnes | Integer | Rule 11 |</p>
<table>
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<tr>
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<th>Type</th>
<th>Rule</th>
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<tr>
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<td>GAS_VENTED_AT_TERMINAL_DENSITY</td>
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<td>O,A,D</td>
<td>Gas Utilised in Terminal</td>
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<td>GAS_UTILISED_IN_TERMINAL_DENSITY</td>
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<td>O</td>
<td>SCO Stock</td>
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<td>SCO_STOCK_MASS</td>
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<td>O,A</td>
<td>Individual Propane Disposal</td>
<td>INDIVIDUAL_PROpane_DISPOSAL_MASS, INDIVIDUAL_PROpane_DISPOSAL_DELIVERY, INDIVIDUAL_PROpane_DISPOSAL_DESTINATION</td>
<td>Tonnes</td>
<td>Integer, Character(1), Character(3)</td>
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<td>Individual Butane Disposal</td>
<td>INDIVIDUAL_Butane_DISPOSAL_MASS, INDIVIDUAL_Butane_DISPOSAL_DELIVERY, INDIVIDUAL_Butane_DISPOSAL_DESTINATION</td>
<td>Tonnes</td>
<td>Integer, Character(1), Character(3)</td>
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<td>O,A</td>
<td>Individual CS Condensate Disposal</td>
<td>INDIVIDUAL_CS_CONDENSATE_DISPOSAL_MASS, INDIVIDUAL_CS_CONDENSATE_DISPOSAL_DELIVERY, INDIVIDUAL_CS_CONDENSATE_DISPOSAL_DESTINATION</td>
<td>Tonnes</td>
<td>Integer, Character(1), Character(3)</td>
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<td>Total Mixed Condensate Disposal</td>
<td>TOTAL_MIXED_CONDENSATE_DISPOSAL_MASS, TOTAL_MIXED_CONDENSATE_DISPOSAL_DENSITY</td>
<td>Tonnes</td>
<td>Integer, Number(1)</td>
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<td>A</td>
<td>Individual Mixed Condensate Disposal</td>
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<td>Tonnes</td>
<td>Integer, Character(1), Character(3)</td>
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<tr>
<td>A,D</td>
<td>Sales Gas from UK Production</td>
<td>SALES_Gas_FROM_UK_PRODUCTION_MASS, SALES_Gas_FROM_UK_PRODUCTION_DENSITY, SALES_Gas_FROM_UK_PRODUCTION_CV</td>
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<td>A,D</td>
<td>Sales Gas from Non UK Production</td>
<td>SALES_Gas_FROM_NON_UK_PRODUCTION_MASS, SALES_Gas_FROM_NON_UK_PRODUCTION_DENSITY, SALES_Gas_FROM_NON_UK_PRODUCTION_CV</td>
<td>Tonnes</td>
<td>Integer, Number(3), Number(2)</td>
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<tr>
<td>A,D</td>
<td>Sales Gas to NTS</td>
<td>SALES_Gas_TO_NTS_MASS, SALES_Gas_TO_NTS_DENSITY, SALES_Gas_TO_NTS_CV</td>
<td>Tonnes</td>
<td>Integer, Number(3), Number(2)</td>
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<td>A,D</td>
<td>Individual Sales Gas Non NTS</td>
<td>INDIVIDUAL_SALES_Gas_NON_NTS_MASS, INDIVIDUAL_SALES_Gas_NON_NTS_DENSITY, INDIVIDUAL_SALES_Gas_NON_NTS_CV, INDIVIDUAL_SALES_Gas_NON_NTS_DESTINATION</td>
<td>Tonnes</td>
<td>Integer, Number(3), Number(2), Character(3)</td>
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</table>
14.3 Validation Rules

Blue text are existing quality checks already used in the current solution.  
Green text are new quality checks.

<table>
<thead>
<tr>
<th>Validation Rule</th>
<th>Rule Definition</th>
<th>Rule Scope</th>
<th>Severity</th>
<th>Field</th>
<th>Terminal</th>
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</thead>
<tbody>
<tr>
<td>Rule 1 – Oil volume reporting</td>
<td>(volume &gt; 0 and &lt; 999999 and density &gt;500 and &lt; 1050) OR (volume = 0 and density = 0)</td>
<td>Within Data/Stream Description</td>
<td>Red</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rule 2 – Oil volume transfers</td>
<td>(volume &gt; -999999 and &lt; 999999 and density &gt; 500 and &lt; 1050 and origin is not blank and destination is not blank) The convention is that transfers from the reporting unit are positive, and transfers in are negative</td>
<td>Within Data/Stream Description</td>
<td>Red</td>
<td>Yes</td>
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<tr>
<td>Rule 2a – Oil volume transfers empty values</td>
<td>(volume &lt;&gt; 0 or density &lt;&gt; 0)</td>
<td>Within Data/Stream Description</td>
<td>Orange</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rule 3 – Gas volume reporting</td>
<td>(volume &gt; 0 and &lt; 999999 and density &gt; 0.65 and &lt; 2.5) OR (volume = 0 and density = 0 )</td>
<td>Within Data/Stream Description</td>
<td>Red</td>
<td>Yes</td>
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<tr>
<td>Rule 4 – Gas volume transfers</td>
<td>(volume &gt; -999999 and &lt; 999999 and density &gt; 0.65 and &lt; 2.5 and origin is not blank and destination is not blank) The convention is that transfers from the reporting unit are positive, and transfers in are negative</td>
<td>Within Data/Stream Description</td>
<td>Red</td>
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<tr>
<td>Rule 4a – Gas volume transfers empty values</td>
<td>(volume &lt;&gt; 0 or density &lt;&gt; 0)</td>
<td>Within Data/Stream Description</td>
<td>Orange</td>
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<tr>
<td>Rule 5 – Gas volume reporting with CV</td>
<td>(volume &gt; 0 and &lt; 999999 and density &gt; 0.65 and &lt; 2.5 and calorific value (CV) &gt; 0 and &lt; 99) OR (volume = 0 and density = 0 and CV = 0 )</td>
<td>Within Data/Stream Description</td>
<td>Red</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rule 6 – Gas volume reporting with CV only</td>
<td>(volume &gt;0 and &lt; 999999 and CV &gt; 0 and &lt; 99) OR (volume = 0 and CV = 0 )</td>
<td>Within Data/Stream Description</td>
<td>Red</td>
<td>Yes</td>
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<tr>
<td>Rule 7 – volume/ mass reporting only</td>
<td>(value &gt;= 0 and &lt; 999999999)</td>
<td>Within Data/Stream</td>
<td>Red</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Rule 9 – Individual Gas mass disposals</td>
<td>Description</td>
<td>Rule 9a – Individual Gas mass disposals - negative mass</td>
<td>Description</td>
<td>Rule 9b – Individual Gas mass disposals empty values</td>
<td>Description</td>
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<td>-------------------------------------------------</td>
<td>-------------</td>
<td>------------------------------------------------</td>
<td>-------------</td>
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<tr>
<td>(mass &gt; 0 and &lt; 9999999 and density &gt; 0.65 and &lt; 2.5 and CV &gt; 0 and &lt; 99 and Destination is not blank)</td>
<td>Within Data/Stream Description</td>
<td>(mass &gt; -9999999 and &lt; 9999999 and density &gt; 0.65 and &lt; 2.5 and CV &gt; 0 and &lt; 99 and Destination is not blank)</td>
<td>Within Data/Stream Description</td>
<td>(volume &lt;&gt; 0 or density &lt;&gt; 0 or cv &lt;&gt; 0)</td>
<td>Within Data/Stream Description</td>
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<td>Rule 21 – Individual oil volume disposal</td>
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<tr>
<td>Rule 21a – Individual oil volume disposal empty values</td>
<td>(volume &lt;&gt; 0 or density &lt;&gt; 0)</td>
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<tr>
<td>Rule 22 – NGL and Condensate mass reporting</td>
<td>( mass &gt; 0 and &lt; 9999999 and density &gt; 300 and &lt; 800 ) OR ( mass = 0 and density = 0 )</td>
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<tr>
<td>Rule 23 – Mass losses</td>
<td>( mass &gt; -9999999 and &lt; 9999999 )</td>
<td>Red</td>
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<td></td>
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<tr>
<td>Rule 24 – Gas mass losses</td>
<td>( ( mass &gt; 0 and &lt; 9999999 ) or ( mass &gt; -9999999 and &lt; 0 ) ) and density &gt; 0.5 and &lt; 5 ) OR ( mass = 0 and density = 0 )</td>
<td>Red</td>
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<tr>
<td>Rule 25 – Condensate mass losses</td>
<td>( ( mass &gt; 0 and &lt; 9999999 ) or ( mass &gt; -9999999 and &lt; 0 ) ) and density &gt; 300 and &lt; 800 ) OR ( mass = 0 and density = 0 )</td>
<td>Red</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 26 – Total disposals and individual values</td>
<td>For each terminal product type: SCO, Ethane, Propane, Butane, C5 Condensate, Mixed Condensate, Dry Gas Condensate, the sum of individual disposals must equal total disposal within plus or minus 0.5%. Similarly for field Oil Tanker Disposals. If the total value for a product type is zero, then no entries in the corresponding repeating group for the individual disposals should be included in the return. Only the tag for the repeating group should appear.</td>
<td>Consistency of total values and corresponding individual values</td>
<td>Red</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rule 30 – How to report empty Repeating Groups</td>
<td>If a repeating group does not have values to be reported (e.g. a field has no Inter Field Transfer of Oil) then the XML data tags within the repeating group should be omitted. Only the tags identifying the repeating group should be included in the XML file. E.g. if there is no Inter Field Transfer of Oil then the XML entry will read: &lt;Inter_Field_Transfer_of_Oil_Repeating_Group&gt; &lt;/Inter_Field_Transfer_of_Oil_Repeating_Group&gt; Similarly if there were no Individual Ethane Disposals then the entry in the XML file would read: &lt;Individual_Ethane_Disposal_Repeating_Group&gt; &lt;/Individual_Ethane_Disposal_Repeating_Group&gt;</td>
<td>Repeating Data Groups</td>
<td>Orange</td>
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<tr>
<td>Rule 31 – Valid codes for Destinations</td>
<td>These are in a separate part of the Manual because they may change from time to time.</td>
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<tr>
<td>Rule 32 – Gas Injection – only report CV for fields with sales gas injection</td>
<td>(Reporting_Unit_Type = P or T and Volume &gt;=0 and &lt; 999999999 and CV is blank) OR (Reporting_Unit_Type = G and Reporting Unit injects sales gas for storage and (Volume &gt;0 and &lt; 999999999 and CV &gt; 0 and &lt; 50 ) or (Volume = 0 and CV = 0)) OR (Reporting_Unit_Type = G and Reporting Unit does not inject sales gas for storage and (Volume &gt;= 0 and &lt; 999999999 and CV is blank))</td>
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<tr>
<td>Rule 33 – Disposal Delivery Method</td>
<td>Value should be, R= Rail or Road P= Pipeline T= Tanker O= Other</td>
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<tr>
<td>Rule 34 – Tolerance Level with Previous Data</td>
<td>All MASS and VOLUMES should be checked against the previous month’s figures. Any new figure that is more than 25% different from the last month should be submitted to the user in an error message.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 35 – Non Hydrocarbon Gas content</td>
<td>Non-hydrocarbon gas content as percentage of volume &gt;=0 and &lt; 99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 36 – Valid Calorific Value Ranges of Gasses</td>
<td>The calorific value for a gas must not exceed the theoretical maximum or minimum for a hydrocarbon gas mixture of the purity provided in the return.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 37 – Stock of Oil in Tanker Oil volume reporting</td>
<td>(volume &gt; -9999999 and &lt; 99999999 and density &gt; 500 and &lt; 1050) OR (volume = 0 and density = 0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 37a – Stock of Oil in Tanker volume reporting normal bounds</td>
<td>(volume &gt;= 0 and &lt; 999999)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 38 Non Hydrocarbon Gas content</td>
<td>Non-hydrocarbon content must be provided for reporting periods after the 1st September 2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 39 Days not producing</td>
<td>Days not producing must not be greater than the number of days in the reporting period</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 14.4 Onshore Wells Validation Rules

<table>
<thead>
<tr>
<th>Validation Rule</th>
<th>Rule Definition</th>
<th>Rule Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 1 – Oil volume reporting</td>
<td>(volume &gt; 0 and &lt; 99999999 and density &gt; 500 and &lt; 1050) OR (volume = 0 and density = 0)</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 2 – Oil volume transfers</td>
<td>((volume &gt; 0 and &lt; 99999999) or (volume &lt; 0 and &gt; -99999999)) and density &gt; 500 and &lt; 1050 and origin is not blank and destination is not blank) The convention is that transfers from the reporting unit are positive, and transfers in are negative</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 3 – Gas volume reporting</td>
<td>(volume &gt; 0 and &lt; 999999999 and density &gt; 0.5 and &lt; 5) OR (volume = 0 and density = 0)</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 4 – Gas volume transfers</td>
<td>((volume &gt; 0 and &lt; 999999999) or (volume &lt; 0 and &gt; -999999999)) and density &gt; 0.5 and &lt; 5 and origin is not blank and destination is not blank) The convention is that transfers from the reporting unit are positive, and transfers in are negative</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 5 – Gas volume reporting with CV</td>
<td>(volume &gt; 0 and &lt; 999999999 and density &gt; 0.5 and &lt; 5 and calorific value (CV) &gt; 0 and &lt; 50) OR (volume = 0 and density = 0 and CV = 0)</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 6 – Gas volume reporting with CV only</td>
<td>(volume &gt; 0 and &lt; 999999999 and CV &gt; 0 and &lt; 50) OR (volume = 0 and CV = 0)</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Rule 7 – volume/ mass reporting only</td>
<td>(value &gt;= 0 and &lt; 999999999) Within Data/Stream Description</td>
<td></td>
</tr>
<tr>
<td>Rule 9 – Individual Gas mass disposals</td>
<td>(mass &gt; 0 and &lt; 9999999 and density &gt; 0.5 and &lt; 5 and CV &gt; 0 and &lt; 50 and Destination is not blank) Within Data/Stream Description</td>
<td></td>
</tr>
<tr>
<td>Rule 10 – Oil mass reporting</td>
<td>(mass &gt; 0 and &lt; 9999999 and density &gt; 500 and &lt; 1050) OR (mass = 0 and density = 0) Within Data/Stream Description</td>
<td></td>
</tr>
<tr>
<td>Rule 11 – Gas mass reporting</td>
<td>(mass &gt; 0 and &lt; 9999999 and density &gt; 0.5 and &lt; 5) OR (mass = 0 and density = 0) Within Data/Stream Description</td>
<td></td>
</tr>
<tr>
<td>Rule 12 – Mass disposal</td>
<td>(mass &gt; 0 and &lt; 9999999 and delivery not blank and destination is in Rule 31) Within Data/Stream Description</td>
<td></td>
</tr>
<tr>
<td>Rule 13 – Gas mass reporting with CV</td>
<td>(mass &gt; 0 and &lt; 9999999 and density &gt; 0.5 and &lt; 5 and CV &gt; 0 and &lt; 50) OR (mass = 0 and density = 0 and CV = 0) Within Data/Stream Description</td>
<td></td>
</tr>
<tr>
<td>Rule 14 – Reporting month/ year</td>
<td>month &gt;= 1 and &lt;= 12 and year &gt;= 1975 Within Data/Stream Description</td>
<td></td>
</tr>
<tr>
<td>Rule 15 – Reporting Unit Details</td>
<td>Assigned by OGA at start of reporting – must be upper case if alphabetic. Individual Data Item</td>
<td></td>
</tr>
<tr>
<td>Rule Number</td>
<td>Rule Description</td>
<td>Mathematical Expression</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Rule 16 – Reporting Unit Type</td>
<td>Reporting_Unit_Type = Well</td>
<td>Individual Data Item</td>
</tr>
<tr>
<td>Rule 17 – Operating Company</td>
<td>Agreed with DTI at start of reporting and for subsequent changes – upper case</td>
<td>Individual Data Item</td>
</tr>
<tr>
<td>Rule 19 – NGL/ Condensate volume reporting</td>
<td>( volume &gt; 0 and &lt; 9999999 and density &gt; 300 and &lt; 800 ) OR ( volume = 0 and density = 0 )</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 20 – NGL/ Condensate volume transfers</td>
<td>(( volume &gt; 0 and &lt; 9999999) or ( volume &lt; 0 and &gt; -9999999 ) ) and density &gt; 300 and &lt; 800 and origin is not blank and destination is not blank</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>The convention is that transfers from the reporting unit are positive, and transfers in are negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule 21 – Individual oil volume disposal</td>
<td>Volume &gt; 0 and &lt; 9999999 and density &gt; 500 and &lt; 1050 and destination in Rule 31 and vessel is not blank</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 22 – NGL and Condensate mass reporting</td>
<td>( mass &gt; 0 and &lt; 9999999 and density &gt; 300 and &lt; 800 ) OR ( mass = 0 and density = 0 )</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 23 – Mass losses</td>
<td>( mass &gt; -9999999 and &lt; 9999999 )</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 24 – Gas mass losses</td>
<td>((( mass &gt; 0 and &lt; 9999999 ) or ( mass &gt; -9999999 and &lt; 0 ) ) and density &gt; 0.5 and &lt; 5 ) OR ( mass = 0 and density = 0 )</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>Rule 25 – Condensate mass losses</td>
<td>( (( mass &gt; 0 and &lt; 9999999 ) or ( mass &gt; -9999999 and &lt; 0 ) ) and density &gt; 300 and &lt; 800 ) ) or ( mass = 0 and density = 0 )</td>
<td>Within Data/Stream Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Rule 26 – Total disposals and individual values</td>
<td>For each terminal product type: SCO, Ethane, Propane, Butane, C5 Condensate, Mixed Condensate, Dry Gas Condensate, the sum of individual disposals must equal total disposal within plus or minus 0.5%. Similarly for field Oil Tanker Disposals. If the total value for a product type is zero, then no entries in the corresponding repeating group for the individual disposals should be included in the return. Only the tag for the repeating group should appear.</td>
<td>Consistency of total values and corresponding individual values</td>
</tr>
<tr>
<td>Rule 30 – How to report empty Repeating Groups</td>
<td>If a repeating group does not have values to be reported (e.g. a field has no Inter Field Transfer of Oil) then the XML data tags within the repeating group should be omitted. Only the tags identifying the repeating group should be included in the XML file. E.g. if there is no Inter Field Transfer of Oil then the XML entry will read: &lt;Inter_Field_Transfer_of_Oil_Repeating_Group&gt; &lt;/Inter_Field_Transfer_of_Oil_Repeating_Group&gt; Similarly if there were no Individual Ethane Disposals then the entry in the XML file would read: &lt;Individual_Ethane_Disposal_Repeating_Group&gt; &lt;/Individual_Ethane_Disposal_Repeating_Group&gt;</td>
<td>Repeating Data Groups</td>
</tr>
<tr>
<td>Rule 32 – Gas Injection – only report CV for fields with sales gas injection</td>
<td>( Reporting_Unit_Type = P or T and Volume &gt;=0 and &lt; 999999999 and CV is blank ) ) or ( Reporting_Unit_Type = P or T and Volume &gt;=0 and &lt; 999999999 and CV is blank )</td>
<td>Within Data/Stream Description</td>
</tr>
</tbody>
</table>
(Reporting_Unit_Type = G and Reporting Unit injects sales gas for storage and
  (Volume > 0 and < 999999999 and CV > 0 and < 50) or (Volume = 0 and CV = 0))
OR
(Reporting_Unit_Type = G and Reporting Unit does not inject sales gas for storage
and
  (Volume >= 0 and < 999999999 and CV is blank))
## 15. APPENDIX C - PPRS DESTINATION CODES FOR VALIDATION RULE 31

### 15.1 Destinations for UK disposals

**Destination Names and Codes**

- Albury ALB
- Bacton Perenco BAP
- Bacton SEAL BAQ
- Bacton Shell BAS
- Barrow Centrica BAR
- BP-Amoco Chemicals, Avonmouth BAV
- BP-Amoco Chemicals, Grangemouth BPC
- BP-Amoco Chemicals, Saltend BPS
- BP-Amoco Refinery, Grangemouth BGA
- Calor Gas, Belfast BFE
- Calor Gas, Felixstowe CFE
- Carless Solvents, Harwich CSH
- Caythorpe CAY
- Connah's Quay CQU
- Conoco Refinery, Killingholme/Immingham CKI
- Crosby Warren CRW
- Dimlington DIM
- Easington York EAS
- Eastham Refinery, Eastham ERF
- Elf Refinery, Milford Haven EMH
- Elswick ELS
- Esso Chemicals, Fife EOI
- Esso Refinery, Fawley EFA
- Flotta
- Hamble Terminal
- Hatfield Moors
- Holybourne Terminal
- FPS Kinneil
- Knapton Generating Station
- Inter Terminals Ltd
- Lindsey Refinery, Killingholme
- Mobil Refinery, Coryton
- Murco Refinery, Milford Haven
- National Transmission System
- Navigator Terminals Seal Sands Ltd
- Not Known
- Nynas Refinery, Dundee
- Peterhead/Boddam Power Station
- Petroplus, Milfordhaven
- Phillips Imperial Refinery, North Tees
- PowerGen gas to Killingholme Power Station
- SABIC UK Petrochemicals Ltd
- Shell Refinery, Stanlow/ Tranmere
- Ship to Ship
- St Fergus SEGAL
- St Fergus Frigg
- St Fergus SAGE
- Scarpa Flow
- Southwold
- Sullom Voe
- Teesside CATS
- Teesside Norpipe
- Teesside TGPP/PX
- Texaco Refinery, Pembroke
- Theddlethorpe
• Trumfleet
• Wytch Farm gas processing/export
• Wytch Farm
15.2 International Destinations

- Albania  
- Algeria  
- Angola  
- Argentina  
- Armenia  
- Australia  
- Austria  
- Azerbaijan  
- Bahamas  
- Bahrain  
- Belarus  
- Belgium  
- Bosnia and Herzegovina  
- Brazil  
- Brunei Darussalam  
- Bulgaria  
- Cameroon  
- Canada  
- Chile  
- China, People's Republic  
- Colombia  
- Congo, Democratic Republic  
- Croatia  
- Cyprus  
- Czech Republic  
- Denmark  
- Ecuador  
- Egypt  
- Equatorial Guinea
• Estonia EE
• Finland FI
• France FR
• Gabon GA
• Georgia GE
• Germany DE
• Gibraltar GI
• Greece GR
• Hong Kong (China) HK
• Hungary HU
• Iceland IS
• India IN
• Indonesia ID
• Iran, Islamic Republic IR
• Iraq IQ
• Ireland IE
• Israel IL
• Italy IT
• Japan JP
• Jordan JO
• Kazakhstan KZ
• Korea North KP
• Kuwait KW
• Kyrgyzstan KG
• Latvia LV
• Lebanon LB
• Libya LY
• Lithuania LT
• Macedonia, Former Yugoslav Republic RY
• Malaysia MY
• Malta MT
• Mexico MX
• Moldova, Republic  MD
• Montenegro  MO
• Morocco  MA
• Netherlands  NL
• Netherlands Antilles  NT
• New Zealand  NZ
• Nigeria  NG
• Norway  NO
• Oman  OM
• Other Africa
• Other Asia and Pacific
• Other Europe
• Other Former Soviet Union
• Other Near and Middle East
• Other non-OECD Americas
• Papua New Guinea  PG
• Peru  PE
• Poland  PL
• Portugal  PT
• Qatar  QA
• Romania  RO
• Russian Federation  RU
• Saudi Arabia  SA
• Serbia  SX
• Singapore  SG
• Slovak Republic  SK
• Slovenia  SI
• Spain  ES
• Sweden  SE
• Switzerland  CH
• Syrian Arab Republic  SY
• Tajikistan  TJ
• Thailand
• Trinidad and Tobago
• Tunisia
• Turkey
• Turkmenistan
• Ukraine
• United Arab Emirates
• United Kingdom
• United States
• Uzbekistan
• Venezuela
• Vietnam
• Yemen
• Non-specified/Other

TH
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OT
16. APPENDIX D – REPORTING TYPES FLOW CHARTS

Oil Terminal Unit

- Pipeline Oil Entering Terminal
- NGLs Condensate Entering Terminal

- Gas Utilised in Terminal
- Gas Vented at Terminal
- Gas Flared at Terminal

- NGL Receipts
- NGL Production
- Condensate and NGL Losses

- Ethane Stock
- Propane Stock
- Butane Stock
- C5 Condensate Stock

- Total Ethane Disposal
- Total Propane Disposal
- Total Butane Disposal
- Total C5 Condensate Disposal

- SCO Receipts
- SCO Stock

- SCO Losses
- Total SCO Disposal

Oil Pipeline Terminal (Data Type O)
Offshore Tanker Loading (Data Type OTL)
PPRS Redevelopment

Offshore and Onshore Dry Gas Field (Data Type G)