



TR 2008/10 - Petroleum resource rent tax: application of Petroleum Resource Rent Tax Assessment Regulations 2005 to an integrated gas-to-liquid operation

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Taxation Ruling

Petroleum resource rent tax: application of Petroleum Resource Rent Tax Assessment Regulations 2005 to an integrated gas-to-liquid operation

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What this Ruling is about

1. This Ruling explains aspects of how the relevant Petroleum Resource Rent Tax Assessment Regulations 2005 (PRRTA Regulations) are to be interpreted in determining the assessable petroleum receipts of a taxpayer for the sales gas from a petroleum project produced and processed in an integrated gas-to-liquid (GTL) operation (which exists in circumstances defined in subregulation 4(1) of the PRRTA Regulations). This Ruling covers the following topics:

- the definition and measurement of the volume of project sales gas (for example, represented as VG in regulation 17 of the PRRTA Regulations);
- the definitions of project product, phase and energy coefficient;
- the definition and measurement of the volume of project natural gas (for example, represented as V_A and V_B in regulation 10 of the PRRTA Regulations); and
- the measurement of gas and liquid volumes.

Background

2. Petroleum resource rent tax (PRRT) payable under the *Petroleum Resource Rent Tax Assessment Act 1987* (PRRTAA) is assessed on a petroleum project basis. Under section 21 of the PRRTAA, the tax is imposed on the taxable profit of a taxpayer for a year of tax in relation to a project. The taxable profit of a taxpayer is calculated from the assessable receipts and the deductible expenditure of the taxpayer for a year of tax. The assessable receipts derived by a taxpayer in a year of tax include assessable petroleum receipts (subsection 23(1) of the PRRTAA).

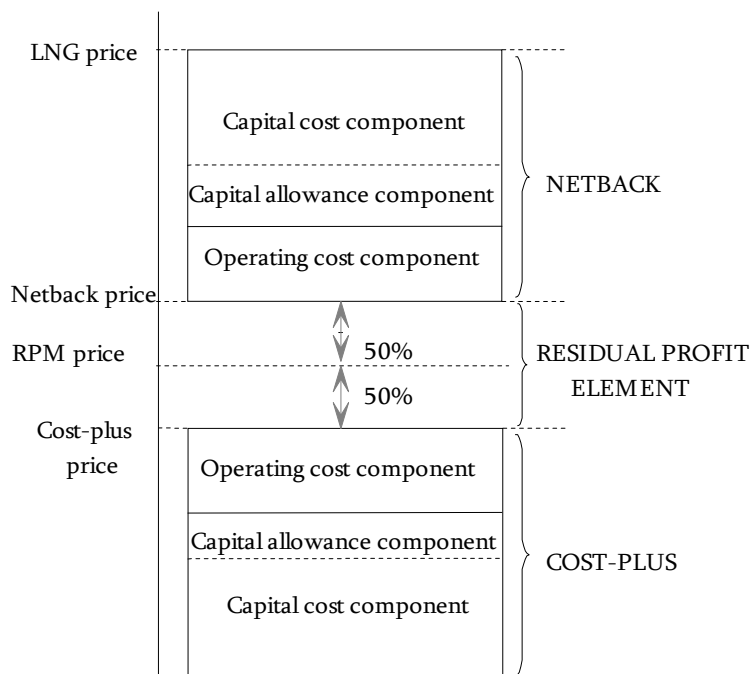
3. Assessable receipts arise when a marketable petroleum commodity (MPC) under the PRRTAA, or petroleum under the PRRTAA from which no such commodity has been produced, is sold. Assessable receipts also arise when an MPC is further processed or treated or is otherwise moved away from its place of production (or adjacent storage), so far as no assessable receipts have already arisen (sections 24 and 25 of the PRRTAA, and the definition of 'excluded commodity' in section 2 of the PRRTAA). For sales gas from a petroleum project that becomes an excluded commodity by being sold other than at arm's length, or without being sold, the assessable receipts for that sales gas are worked out in accordance with the regulations (paragraphs 24(1)(d) and (e) of the PRRTAA).

4. In an integrated GTL operation, the petroleum recovered from a petroleum project is processed into sales gas which is then processed into liquefied product. Other MPCs (usually condensate) may also be produced as separate products. Generally, there is no arm's length sale of sales gas in an integrated GTL operation. If this is the case, then pursuant to subsection 24(1) of the PRRTAA, the assessable petroleum receipts of a taxpayer for the sales gas produced and processed in the integrated GTL operation in a year of tax are determined by applying the PRRTA Regulations. Where there is an arm's length sale of sales gas from a petroleum project, the assessable petroleum receipts for that gas will be calculated by applying paragraph 24(1)(b) of the PRRTAA. Where the taxpayer is not a participant in an integrated GTL operation or the sales gas is not project sales gas of that operation, the assessable petroleum receipts will be calculated as if the sales gas were any other MPC (subregulations 14(3) and 15(3) of the PRRTA Regulations).

5. The PRRTA Regulations apply to determine the assessable petroleum receipts of a taxpayer for their project sales gas, in relation to a petroleum project that is an integrated GTL operation (paragraphs 24(1)(d) and (e) of the PRRTAA and regulations 14 and 15 of the PRRTA Regulations). If project sales gas of the integrated GTL operation is the subject of a non-arm's-length sale, the assessable petroleum receipts are determined by applying regulation 16 of the PRRTA Regulations to the gas. If project sales gas of the integrated GTL operation is not sold, the assessable petroleum receipts for the gas are determined by applying regulation 17 of the PRRTA Regulations.

6. If an advance pricing arrangement (APA) applies, the assessable petroleum receipts of the taxpayer are calculated in accordance with the APA (sub-subregulations 16(1)(a) and 17(1)(a) of the PRRTA Regulations). Where there is no APA, but there is a comparable uncontrolled price (CUP), the assessable petroleum receipts are calculated by applying the CUP (or, for a non-arm's length sale for a higher amount, at that higher amount) (sub-subregulations 16(1)(b) and 17(1)(b) of the PRRTA Regulations). Because the CUP price is to be applied to the relevant volume of project sales gas (under sub-subregulation 16(2)(a) and subregulation 17(2) of the PRRTA Regulations), a CUP must always be worked out as a price for a volume of gas. So far as no APA applies and no CUP is available, then a price (called the residual pricing method (RPM) price), determined by applying the RPM prescribed in regulation 25 of the PRRTA Regulations, must be used. That method produces a price applied per volume of gas under sub-subregulation 16(3)(a) and subregulation 17(3) of the PRRTA Regulations.

7. In an integrated GTL operation, petroleum (natural gas) is processed into sales gas (an MPC, for which an assessable receipt arises in calculating PRRT), or the petroleum is used up in doing so. The sales gas that is part of the integrated GTL operation, the project sales gas, is processed into project liquid (the LNG and other liquefied gas products of the integrated GTL operation, which are generally sold by the operation), or the project sales gas is used up in doing so. The processing of project petroleum to produce project sales gas is referred to as the upstream stage and the processing of project sales gas into project liquid is referred to as the downstream stage. Because PRRT applies on the basis of the assessable receipt arising or taken to arise for the sales gas, that receipt needs to be worked out where the sales gas is not sold at arm's length. The PRRT Regulations include the RPM as a way to do so. The RPM price incorporates cost-plus and netback calculations to value the sales gas (see Figure 1). The cost-plus and netback calculations are two of the most readily utilised and recognised kinds of arm's length transfer price methodologies. These kinds of methodologies are used extensively across many international jurisdictions in relation to petroleum and other transfer pricing issues.

Figure 1: Stylised representation of the RPM

Source: Explanatory Statement – Select Legislative Instrument 2005 No. 329 (the Explanatory Statement).

8. The cost-plus price is the minimum price at which the upstream stage of an integrated GTL operation would sell its gas to the downstream stage in order to cover its upstream costs, taking into account a proper allocation for its capital costs. The netback price is the maximum price the downstream stage of the integrated GTL operation would pay the upstream stage for sales gas, given the price obtained for or the value of project liquid produced, in order to cover its costs including a proper allocation of capital invested. The difference between these prices identifies the residual profit for a project. The RPM price, for the purposes of the PRRTAA, is determined by allocating 50% of the residual profit to the upstream stage and 50% of the residual profit to the downstream stage. However, where the overall integrated GTL operation incurs an economic loss because the upstream and downstream costs can't be covered (in other words, where the netback price is lower than the cost-plus price), the entire loss is attributed to the upstream stage and diminishes the assessable receipts for the sales gas (the RPM price is taken to be the netback price). That is, the liability of the taxpayer to pay PRRT is reduced/eliminated so far as the operation incurs an economic loss (Regulation Impact Statement to the Explanatory Statement).

9. The policy objective of the PRRTA Regulations is to provide a framework to determine the amount of the RPM price, including identifying and allocating those costs and how far they are to be taken into account for the upstream and downstream stages. The PRRTA Regulations provide a mechanism for determining assessable receipts for project sales gas that becomes an excluded commodity either through a non-arm's length sale or by being moved for further processing. The PRRTA Regulations do not apply to determine whether expenses that are incurred qualify as deductible expenditure (pursuant to Division 3 of the PRRTAA) for the purpose of ascertaining a taxpayer's taxable profit in relation to a petroleum project: there may be deductible expenditure that is not a relevant cost under the PRRTA Regulations, and there may be a relevant cost under the PRRTA Regulations that is not deductible expenditure under the PRRTAA. Neither do the PRRTA Regulations apply to determine whether an expense qualifies for deduction for the purpose of determining the taxable income of a project participant for income tax purposes: there may be income tax deductions for amounts that are not relevant costs under the PRRTA Regulations, and there may be relevant costs under the PRRTA Regulations that do not give rise to income tax deductions.

10. The RPM price provides a safe harbour by using an arm's length methodology to work out a gas transfer price. It is an economic pricing model. Therefore, unlike the PRRTAA, it makes a clear distinction between capital and revenue costs and allocates capital costs for each year of tax by using a formula. It also allocates costs for each year of tax between project product of the integrated GTL operation and other hydrocarbons. As it is a simplified pricing model, the steps in the calculation of an RPM price do not always follow accounting concepts, standards or records.

11. Measurement of the relevant volume of project sales gas (VG) is an important step in calculating the assessable receipts of a taxpayer. The term VG is used in regulations 16 and 17 of the PRRTA Regulations.

Ruling

Measurement of the volume of project sales gas for the purposes of regulations 16 and 17

12. Regulations 16 and 17 of the PRRTA Regulations define VG as the volume of project sales gas to which a relevant pricing rule applies. As the regulations apply to a particular taxpayer, they apply the relevant calculations of assessable receipts under the PRRTAA only to the relevant part of that taxpayer's share of the project sales gas. That is, the taxpayer's share of the total volume of project sales gas that is produced in the upstream stage of the integrated GTL operation in a year of tax and which enters the downstream stage of the operation for further processing (or which is sold at that or an earlier point). This gas is project sales gas whether it then becomes project liquid (by liquefaction in the integrated GTL operation) or is returned to and used up (for example as fuel) in the upstream or used up (for example as fuel or as refrigerant) in the downstream stage of the operation.

13. As sales gas in an integrated GTL operation for which assessable receipts must be calculated is the feedstock for conversion to liquefied product or products, it must have been fully processed to be suitable for that use ('sales gas', section 2 of the PRRTAA). Therefore, in an integrated GTL operation there is no practical difference between the point at which assessable receipts must be calculated because the sales gas is moved on for further processing and any earlier point at which the sales gas could be sold as such.

14. The act of moving on the project sales gas for further processing triggers the need to calculate assessable petroleum receipts for it if there is no earlier sale. An actual integrated GTL operation may produce project sales gas at, and move it on for further processing from, more than one physical point. If this is the case, each of the points where project sales gas is so produced will represent the end of the upstream stage and the start of the downstream stage (and each will be the point where assessable receipts must be determined, the PRRT taxing point commonly known as the PRRT ring fence). The taxpayer's share of the sum of the volumes of project sales gas produced at all such points constitutes the total volume of their project sales gas to which an applicable pricing rule under regulations 16 and 17 of the PRRTA Regulations may apply. Each pricing rule applies only to so much of the taxpayer's share of project sales gas as it can apply to, with the RPM price being the default rule.

15. The volume of project sales gas (VPSG) for the purposes of regulations 22 and 23 of the PRRTA Regulations is not limited to the taxpayer's share of project sales gas. VPSG is the total volume of project sales gas that is produced in the upstream stage of the integrated GTL operation in a year of tax, including the shares of all taxpayers who are participants in that operation.

This is because the cost-plus price under regulation 22 allocates total upstream costs of all participants for a year of tax proportionately to all project sales gas of that year, and the netback price under regulation 23 allocates total downstream costs of all participants for a year of tax proportionately to all project sales gas of that year. This is not true of VPG_{PREV} under regulation 40 of the PRRTA Regulations, where the instalment RPM is based on the total volume of project sales gas in the previous year for the predecessor participant, or participants, whose interest in the operation was transferred from the predecessor participants. Otherwise instalment RPM under regulations 39 and 40 of the PRRTA Regulations is based only on the taxpayer's own share of the total volume of project sales gas, for the current or for the previous year of tax. VTDG, as defined in regulation 23, is the volume of the taxpayer's share of the downstream gas. The principles discussed in the above paragraphs in relation to VG are also relevant to the volumes of project sales gas defined as VPSG, VPG_{PREV} , VPG (as defined in regulation 40) and VTDG.

16. In applying energy coefficients to costs of a phase, so as to work out the proportion of those costs that represent costs of producing and processing project sales gas, the energy content of the total phase hydrocarbons (the energy content of project product in the numerator and the energy content of all petroleum in the denominator) is used for the purposes of regulation 37 of the PRRTA Regulations. This is regardless of which participants have interests in them, and not just based on the taxpayer's share of the phase hydrocarbons or of the project product in that phase.

Apportionment of costs between project product and other petroleum commodities

17. The apportionment of costs between project product of the integrated GTL operation and total petroleum including any other petroleum is relevant to the calculation of an RPM Price. Costs for any year are apportioned for applicable phases, found by dividing an integrated GTL operation into distinct phases separated by phase points.

18. The point where the upstream stage ends and the downstream stage starts is always a phase point, whether or not there is a change in the ratio of project product to total petroleum flowing through the operation before and after the point (sub-subregulation 6(1)(a) of the PRRTA Regulations). This is because upstream costs applicable to the cost-plus calculation must be separated from downstream costs applicable to the netback calculation. Where there is more than one physical point where the upstream stage ends and the downstream stage starts (refer to paragraph 14 of this Ruling), each such physical point will be a phase point. These are the physical points where assessable petroleum receipts for sales gas arise for PRRT purposes.

19. Any other point in the integrated GTL operation where the ratio of project product to total product (measured by energy content) changes, is a phase point (sub-subregulation 6(1)(b) of the PRRTA Regulations). These phase points where there is a change in the ratio of project product to total petroleum must be identified, because costs of operations between phase points will be apportioned according to the constant ratio of project product to total petroleum applicable between those points. It is possible for the quantum of flow or the energy content to change at a point without affecting the ratio of project product to total product (for example, because petroleum is taken as fuel proportionately from all petroleum components in a phase). There will not be a phase point where the quantum of flow (or of the total energy content) changes, but the ratio of project product to total product does not change (the Explanatory Statement, explanation for regulation 6 of the PRRTA Regulations).

20. The use of petroleum as fuel or as refrigerant in the upstream stage or the downstream stage of the integrated GTL operation is use for the purposes of the operation (regulation 4, subregulation 23(1) and regulation 40 of the PRRTA Regulations). If at a particular point an activity, such as taking petroleum for fuel, refrigerant or venting of gas, takes petroleum proportionately from all the petroleum products in the phase, no phase point will be created.

21. When there is multiple use of a phase is explained by regulation 7 of the PRRTA Regulations. The actual apportionment of costs of a phase between project product and other petroleum is made by applying the formula in regulation 37 of the PRRTA Regulations.

22. The energy coefficient of a phase for a year of tax, as defined in regulation 37 of the PRRTA Regulations, is the ratio of the energy content of project product to the energy content of all of the petroleum, according to what enters the phase during the year of tax.

23. A cost incurred in complying with the regulatory requirement imposed by a public authority (for example, the cost of removing mercury or carbon dioxide from natural gas) will be a direct cost if it relates only to one or more phases in the upstream stage or only to one or more phases in the downstream stage (subregulation 28(3) of the PRRTA Regulations). If the cost relates to both the upstream stage and the downstream stage it is either apportioned between direct costs of the upstream stage and the downstream stage (if it can be reasonably apportioned and exceeds the threshold (subregulation 28(4) of the PRRTA Regulations)); or it is treated as an indirect cost if it does not exceed the threshold, or if it cannot be reasonably apportioned between direct costs of the upstream stage and the downstream stage (subregulation 28(5) of the PRRTA Regulations).

24. Where an item of plant ceases to be used in the integrated GTL operation, the original cost of the item no longer forms part of the RPM price calculation (the Explanatory Statement, explanation for regulation 36 of the PRRTA Regulations). Any sale proceeds for such an item do not form part of the RPM price calculation process. This does not affect any assessable receipts that arise otherwise than under the RPM process. The sale proceeds may be assessable receipts under a provision of the PRRTAA (for example, section 27 of the PRRTAA).

Allocation of capital costs

25. An annual allocation for each capital cost of an integrated GTL operation, as defined in regulation 31 of the PRRTA Regulations, is made in each year of tax during the expected life of the unit of property to which the cost relates (for costs incurred for a depreciating asset as defined in section 40-30 of the *Income Tax Assessment Act 1997* (ITAA 1997)), or over the expected operating life of the integrated GTL operation (for costs which are treated as capital costs only because they were incurred before the production date of the integrated GTL operation) (subregulations 36(2) and 36(7) of the PRRTA Regulations). The allocation of capital costs relates to the effective life or operating life over which returns for the particular cost must be recovered. When calculating the cost-plus price and netback price, the allocated amount of capital costs is adjusted by a volume coefficient to take into consideration the fluctuations in the volume of project natural gas recovered from the project from year to year (regulations 22 and 23 of the PRRTA Regulations). The volume coefficient is the ratio of the volumes of project natural gas processed in the integrated GTL operation in the current year of tax (V_A) to the estimated average annual volume of project natural gas or the average volume of project natural gas processed in the previous years of operation (V_B) (regulation 10 of the PRRTA Regulations).

26. Project natural gas of an integrated GTL operation is defined in subregulation 4(2) of the PRRTA Regulations as the petroleum (natural gas) recovered from the project from which sales gas will be produced and processed into project liquid. In a typical integrated GTL operation, the project natural gas recovered in gaseous form from a petroleum project is included in the measurement of V_A . In addition, any project natural gas that is recovered from the liquid petroleum extracted from the project is also included in the measurement of V_A (refer to paragraphs 88 and 89 of this Ruling).

27. A reasonable estimation of VNG, the total volume of project natural gas to be recovered during the life of the operation, as defined in regulation 9 of the PRRTA Regulations, must be made on the basis of all the relevant information available to the taxpayer. The Commissioner must be given estimates by the participants in an integrated GTL operation of VNG in the year of tax before the first production year, and if this estimate changes when new information becomes available, the Commissioner must be informed of the new estimate for VNG. VNG is not the same as the expected optimum level of annual production times the number of years in the operating life of the operation. It arrives at estimated average annual volume of project natural gas from the total volume estimated to be produced over the life of the project and the estimated life of the project, rather than the other way round.

Measurement of gas and liquid volumes

28. Measurement of gas and liquid volumes is relevant to the measurement of VG, V_A and the calculation of an RPM Price.

29. The Commissioner can approve the use of any particular unit of measurement for the measurement of gas and liquid volumes. Such measurements are used to ascertain several ratios for different purposes. The purposes of the PRRTAA and the PRRTA Regulations would be frustrated if inconsistent units of measurement were used for different measurements that need to be compared with each other. The Commissioner would only approve the use of a particular unit when the same unit of measurement is used consistently to measure volumes throughout the operation, or where different units that are used are compatible and are converted into a common measurement for the purposes of any comparisons or ratios between measurements.

30. Project product includes project natural gas of the integrated GTL operation (from which sales gas will be produced and processed into liquefied product within the operation), project sales gas (produced from project natural gas and which will be processed into liquefied product within the operation) and all liquefied products derived from project sales gas (for example, LNG, liquefied ethane, liquefied propane and liquefied butane) (regulation 4 of the PRRTA Regulations). Any natural gas, sales gas or project liquid that is used as fuel/refrigerant or vented/flared in the production of project sales gas and its processing into project liquid in the integrated GTL operation is project product (subregulations 4(2) and 4(3)).

31. For the purposes of regulation 23 of the PRRTA Regulations, PLVal is the total market value of project liquid produced in a year of tax. PLVal is calculated by adjusting the sale proceeds for the project liquid for a year of tax by the market value of the change in the quantity of project liquid in storage tanks. As there can be a number of products that constitute project liquid, the sale proceeds and market value of the change in quantity in storage tanks of all such products produced in the integrated GTL operation during a year of tax must be added.

32. The above principle is also relevant in determining PLVal and PLVal_{prev} as defined in regulations 39 and 40 of the PRRTA Regulations (calculating assessable receipts for the purposes of ascertaining current period liability in the instalment provisions of the PRRTAA).

Examples

Measurement of the volume of project sales gas for the purposes of regulation 17 of the PRRTA Regulations

Example 1

33. In an integrated GTL operation that is owned by a single taxpayer and processes no external petroleum, the bulk of sales gas is produced at the end of the 'Pre-cooling for liquefaction' stage. Some sales gas is recovered by heating the liquid stream separated at the end of 'Pre-cooling for liquefaction' stage. Since sales gas is produced at more than one point, each point where sales gas is produced is a phase point and represents the PRRT ring fence for calculating the assessable petroleum receipts for the sales gas produced at that point. The owner of the operation is entitled to all of the project sales gas produced in the operation. If all of the sales gas is processed into project liquid, VG is determined by measuring the volume of sales gas produced at the two points and then adding them together.

Apportionment of costs between project product and other petroleum commodities of the petroleum project

Example 2

34. In an integrated GTL operation that is owned by a single taxpayer and processes no external petroleum, some of the sales gas is used to produce electricity. The remaining sales gas is processed into project liquid. In the relevant year of tax 840 (volume) units of sales gas containing 560 energy units were produced in the operation. The evaporation of project liquid produced another 15 units of gas containing 10 energy units. The gas produced by the evaporation of project liquid was used as fuel in the upstream stage. If 90 (volume) units of sales gas containing 60 energy units were used to produce electricity and only 60% of the electricity produced by the sales gas is used in the integrated GTL operation, what is the value of VG?

35. The 15 (volume) units of gas produced by the evaporation of project liquid do not reduce the measurement of project sales gas. 750 (volume) units of sales gas were processed into project liquid. This volume is included in the volume of project sales gas. Of the 90 (volume) units of sales gas used to generate electricity, 60% is used in the integrated GTL operation. Therefore, 54 (volume) units meet the definition of project sales gas. The owner of the operation is entitled to all of the project sales gas produced in the operation. Therefore, VG is the sum of these two volumes and it equals 804 (volume) units.

Apportionment of costs between project product and other petroleum commodities of the petroleum project

Example 3

36. In a typical integrated GTL operation the liquid stream separated at the exit of the slugcatcher during a year of tax contained 2,500 units of energy. The project natural gas that was recovered from this liquid stream contained 225 units of energy. The stabilised condensate produced from the liquid stream accounted for the remaining 2,275 energy units. The operating cost of the phase (recovery of gas from the liquid stream) for the year was \$120,000. The energy coefficient of the phase in which gas is recovered from the liquid stream is $225/2500$ or 0.09. Therefore, an amount of \$10,800 ($\$120,000 \times 0.09$) will be included on account of the operating cost of this phase in step 12 of the RPM (regulations 25 and 37 of the PRRTA Regulations). This amount would then form part of the overall upstream operating costs (UOC) for the purpose of calculating the cost-plus price in accordance with regulation 22 of the PRRTA Regulations.

Apportionment of costs between project product and other petroleum commodities

Example 4

37. A typical integrated GTL operation may process petroleum from a producer's own project as well as petroleum from a petroleum project that belongs to a third party. Petroleum belonging to the third party may practically enter the plant at the end of the 'Recovery of petroleum' stage. In the relevant year of tax natural gas containing 600 energy units from the producer's own project was processed into 360 (volume) units of sales gas containing 240 energy units. Natural gas containing 200 energy units from the third party's project was processed into 90 (volume) units of sales gas containing 60 energy units. Project natural gas is that volume of natural gas which is recovered from its own project. Project sales gas is 360 (volume) units containing 240 energy units. Natural gas from third party's petroleum project, 90 (volume) units of sales gas containing 60 energy units (produced from the natural gas from the external project), liquefied product produced from this sales gas and all of the condensate produced in the operation would not be project product.

Costs of each phase will be apportioned between project product and other MPCs by taking into consideration the energy content of project product and the energy content of all the petroleum that entered the phase in the assessment year.

Identification of upstream and downstream costs

Example 5

38. Owners of an integrated GTL operation may incur a cost in removing carbon dioxide and other impurities from project natural gas. In a typical integrated GTL operation, the cost of removing impurities is incurred in the 'Removal of impurities' stage (in the upstream stage). Therefore it is a direct cost. The cost of insurance of the integrated GTL operation relates to the entire project. Therefore, it must be split into two direct costs if it exceeds the threshold amount and can be reasonably attributed between the upstream and the downstream stages. If it does not exceed the threshold amount, or it cannot be reasonably attributed, it will be an indirect cost and split into an upstream cost half and a downstream cost half.

Allocation of capital costs

Example 6

39. A typical integrated GTL operation is expected to operate for 15 years. The estimated volume units of project natural gas that it will process are as follows:

Year 1	Year 2	Year 3-13	Year 14	Year 15
45 units	75 units	80-90 units	60 units	40 units

The number of units processed in any particular year of years 3-13 will depend on the downtime for maintenance. On average 85 volume units will be processed per annum. During the expected 15 years of operation the project will process an expected 1,155 volume units recovered from the petroleum project. For the purposes of regulation 9 of the PRRTA Regulations, VNG is 1,155 units, N 15 years and the estimated average annual volume of project natural gas is 77 units. If the actual volume of natural gas recovered in the first year is 50 units and in the second year 80 units, the second year of operation will be the base year. If the taxpayer were to take the optimum level of production as the estimated average annual volume of project natural gas, the actual volume of project natural gas in the second year of operation will not exceed the estimated average volume and the second year of operation will not be the base year. This would be incorrect and would result in an incorrect value for the volume coefficient.

Measurement of gas and liquid volumes – calculation of PLVal***Example 7***

40. In a typical integrated GTL operation liquefied ethane, liquefied propane and liquefied butane that are produced from the project sales gas are either used as refrigerant/fuel or mixed with LNG prior to loading on ships. In a year of tax 650 units of LNG (including methane and other project liquid mixed in it) were sold for \$13b. At the start of the year of tax, the total volume of project liquid in all storage tanks was 16 units. At the end of the year of tax this volume had increased to 20 units. The market value of the change in the liquid volume (\$80m) is added to the sale proceeds of \$13b to arrive at a value of \$13.08b for PLVal (for the purposes of regulation 23 of the PRRTA Regulations).

Measurement of gas and liquid volumes – LPG gases***Example 8***

41. In a typical integrated GTL operation butane and propane are sold as LPG gases. The sale proceeds for LPG are included in PLVal. If LPG gases are mixed in condensate, part of the sale proceeds of condensate will be included in PLVal. If these gases are used exclusively as fuel or refrigerant, they would not be included into the calculation of PLVal even though they are project product.

Measurement of gas and liquid volumes – use of Standard Cubic Metres***Example 9***

42. A question has been raised whether a taxpayer can use the standard cubic meters as defined in the International System of Units as a unit of measurement for gas and liquid volumes in an integrated GTL operation. If the same unit of measurement will be used consistently to measure gas and liquid volumes throughout the operation, the Commissioner is not precluded by the purpose of the PRRTA Regulations from approving the use of standard cubic meters to measure gas and liquid volumes.

Date of effect

43. This Ruling applies to years of income commencing both before and after its date of issue. However, this Ruling will not apply to taxpayers to the extent that it conflicts with the terms of a settlement of a dispute agreed to before the date of issue of this Ruling (see paragraphs 75 and 76 of Taxation Ruling TR 2006/10).

Appendix 1 – Explanation

❶ *This Appendix is provided as information to help you understand how the Commissioner's preliminary view has been reached. It does not form part of the proposed binding public ruling.*

The processes in an integrated GTL operation

44. A simplified diagram showing the main possible processing stages and the flows of petroleum possible in a typical integrated GTL operation is included after paragraph 46 of this Ruling. The diagram is used for illustration purposes only and the processes in an actual integrated GTL operation, and the sequence of processes and the flows of petroleum in an actual operation, will depend on the particular circumstances of that integrated GTL operation.

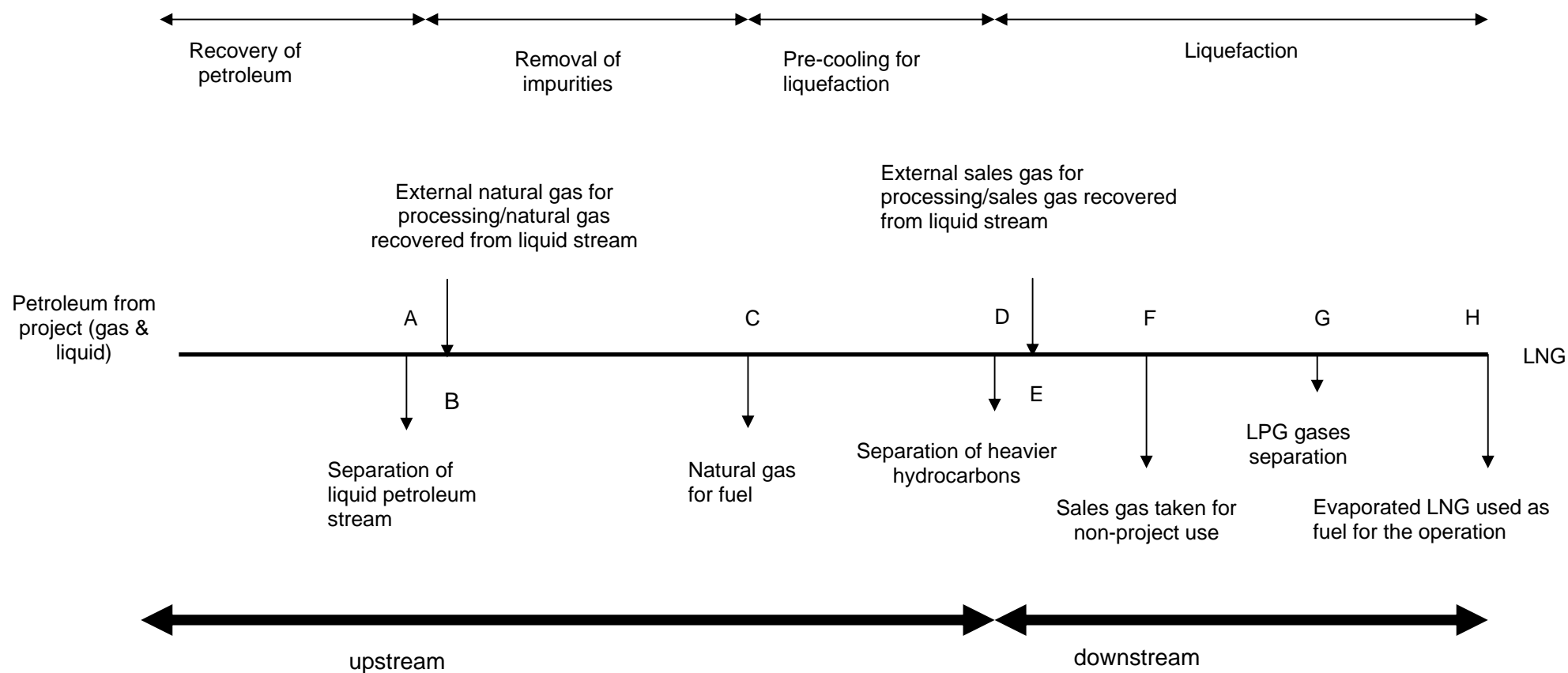
45. 'Petroleum' for the purposes of the PRRTAA has the same meaning as under the extended definition of that term in the *Offshore Petroleum Act 2006*, which by section 6 of that Act means:

- (a) any naturally occurring hydrocarbon, whether in a gaseous, liquid or solid state;
- (b) any naturally occurring mixture of hydrocarbons, whether in a gaseous, liquid or solid state; or
- (c) any naturally occurring mixture of:
 - (i) one or more hydrocarbons, whether in a gaseous, liquid or solid state; and
 - (ii) one or more of the following, that is to say, hydrogen sulphide, nitrogen, helium and carbon dioxide;
 and:
- (d) includes any petroleum as defined by paragraph (a), (b) or (c) that has been returned to a natural reservoir; ...

(the above is an extract of the definition of petroleum in section 6)

Petroleum is intended to mean what is recovered, including a range of things that are not hydrocarbons, and will ordinarily be recovered mixed with other things which are not petroleum (which may include, for instance, mercury and water). It includes gaseous, liquid and solid hydrocarbons and mixtures that are gases, liquids and solids.

46. The first stage of the illustrated operation starts with the recovery of petroleum from wellheads belonging to the petroleum project. (Every petroleum project includes the operations and facilities for the recovery of petroleum from the production licence areas for the project.) A mixture of liquid and gaseous petroleum with a range of non-hydrocarbon components both included in 'petroleum' as defined and other components is recovered, transported, treated and separated into a mixture forming a liquid stream and a mixture forming a gas stream (point A in the diagram). That separation, commonly by a 'slug catcher', is likely in practice to be carried out at the point where the recovered stream is first brought ashore. At the end of the first stage separation, the main constituent in the gas stream is likely to be methane, whereas pentane and hexane are ordinarily the main constituents in the liquid stream.

A simplified diagram showing flow of petroleum in a typical integrated GTL operation

47. Impurities, or non-hydrocarbon components, such as carbon dioxide, hydrogen sulphide, water, mercury and nitrogen in the gas stream are removed in the second stage of the operation as illustrated (point A to point C in the diagram). In the third stage of the operation illustrated (point C to point D in the diagram), the temperature of the gas stream is gradually lowered until any remaining pentane and heavier hydrocarbons are liquefied and separated. At the end of the third stage (point D in the diagram) the gas stream should meet the definition of sales gas (the definition of sales gas has been explained at paragraph 55 of this Ruling).

48. In the fourth and final stage (point D to point H in the diagram), sales gas is further cooled in a liquefaction train which results in liquefaction of sales gas into its separate constituents (or, depending on the particular project, a combination of some of them), namely, butane, propane, ethane and methane. Storage of liquefied gases (whether individually or in some combination) and their loading on ships is treated as part of this stage for the purposes of applying the RPM methodology under the PRRTA Regulations. Methane is the main constituent of liquefied natural gas (LNG). LNG may also contain small quantities of liquefied ethane, liquefied propane or liquefied butane, increasing the thermal value of the LNG, which may be desirable to meet buyer specifications or may be practically convenient in a particular integrated GTL operation. Ethane, propane and butane may each also be sold individually and may be used as refrigerant in the integrated GTL operation. LPG is a mixture of liquefied butane and liquefied propane.

49. As shown in the diagram, the four broad stages of a typical integrated GTL operation can be referred to as:

- (a) the recovery of petroleum stage;
- (b) the removal of impurities stage;
- (c) the pre-cooling for liquefaction stage; and
- (d) the liquefaction stage.

50. The first three stages collectively form the upstream stage while the liquefaction stage is part of the downstream stage of the operation, also including storage of liquefied gases and their loading on ships. These stages of an integrated GTL operation need not correspond to the phases of the operation for the purposes of applying the RPM methodology under the PRRTA Regulations, other than the phase ending at the end of the upstream stage and the phase beginning at the start of the downstream stage. A single stage could consist of a number of phases and a phase may cover more than one stage of the operation.

51. The liquid petroleum stream separated in the 'Recovery of petroleum' stage or (less commonly) in the 'Pre-cooling for liquefaction' stage may contain some lighter hydrocarbons (for example, propane and butane). The lighter hydrocarbons will usually be separated from the liquid stream and may rejoin the mainstream gas flow or may be used as fuel in the integrated GTL operation. If this is the case, for costing purposes, the processing of the liquid stream up to the point where light gases are separated will be to some degree part of the integrated GTL operation in applying the RPM methodology, and will be a phase for that purpose, costs being apportioned according to the ratio of energy in the light gases to the energy in all the hydrocarbons in the whole liquid processing stream (see paragraphs 72 to 79 of this Ruling). Where this is not the case, the liquid stream separated at the end of either stage would have left the integrated GTL operation (for sale or for further processing), because it would no longer have any component of project product for the purposes of the RPM methodology and so no part of the costs from that point at which the liquid stream left the integrated GTL operation would be relevant to the calculation of the RPM price of sales gas under the PRRTA Regulations. Costs incurred in the further processing of the liquid petroleum cannot be included in the costs of the integrated GTL operation. The liquid petroleum leaving an integrated GTL operation will usually meet the definition of condensate in section 2 of the PRRTAA but will leave the integrated GTL operation, in applying the RPM methodology, whether the liquid is condensate or not. The application of the PRRTAA in relation to the liquid or to marketable petroleum products first derived from it is not affected by the operation of the RPM methodology.

52. Natural gas or sales gas from an external project may enter an integrated GTL operation for processing at any stage of the operation. The operation as illustrated includes this. For example, part of the natural gas stream from another petroleum project may enter a typical integrated GTL operation at point B in the diagram, immediately after the start of 'Removal of impurities' stage. Similarly, sales gas from another petroleum project may enter the operation at point E in the diagram, immediately after the start of 'Liquefaction' stage. Natural gas or sales gas from the project can also be taken out of the integrated GTL operation for non-project purposes (and so to that extent would not be part of the project product of the integrated GTL operation). In a typical operation sales gas may be taken from point F in the diagram, a point close to the start of the 'Liquefaction' stage. Natural gas, sales gas or liquefied product may also be taken for use as fuel or refrigerant in the overall operation, for example, from points C or H in the diagram.

53. Liquefied product that evaporates from storage tanks may be used as fuel in the integrated GTL operation. Liquefied ethane, liquefied propane and liquefied butane may be marketed separately or mixed with LNG or other products. Liquefied propane and liquefied butane may be mixed and marketed as LPG.

Some relevant definitions

54. As the PRRTA Regulations are made under the PRRTAA, terms used in those Regulations have the meanings specified in that Act unless some specific meaning is given for the purpose of those Regulations. So, for instance, petroleum is not specially defined for the purposes of those Regulations but is defined by section 2 of the PRRTAA to have the same meaning as in the *Offshore Petroleum Act 2006*. As outlined in paragraph 45 of this Ruling, petroleum is defined in the *Offshore Petroleum Act 2006* as a substance consisting of one or more naturally occurring hydrocarbons in gaseous, liquid or solid form and may include impurities such as hydrogen sulphide, nitrogen, helium and carbon dioxide.

55. Sales gas is defined in section 2 of the PRRTAA. Sales gas means a substance:

- which is in a gaseous state when at the temperature of 15 degrees Celsius and a pressure of one atmosphere; and
- which consists of naturally occurring hydrocarbons, or a naturally occurring mixture of hydrocarbons and non-hydrocarbons; and
- the principal constituent of which is methane; and
- which, if it is to be used as feedstock for conversion to another product, has been processed so that it is suitable for that use; or in any other case, has been processed so that it is suitable for direct consumption as energy.

56. The term 'excluded commodity' is defined in section 2 of the PRRTAA to mean a marketable petroleum commodity that:

- has been sold;
- after being produced, has been further processed or treated;
- has been moved away from the place of its production other than to a storage site adjacent to that place; or
- has been moved away from a storage site adjacent to the place of its production.

57. The definition of a 'marketable petroleum commodity' (MPC) means the following products produced from petroleum:

- stabilised crude oil;
- sales gas;
- condensate;
- liquefied petroleum gas (LPG);
- ethane; and
- any other product declared by regulation to be an MPC.

However, it does not include products produced from another MPC. This means that so far as an MPC becomes an excluded commodity, for example, by being moved away from its place of production or adjacent storage, it cannot do so again. Therefore there can be no double counting of assessable receipts for an MPC. Refer to paragraph 96 of this Ruling for further commentary relating to LPG produced from project sales gas.

Measurement of the volume of project sales gas for the purposes of regulations 16 and 17 of the PRRTA Regulations

58. The discussion on VG in the following paragraphs explains the relevant PRRTA Regulations and how they operate to require the measurement of project sales gas at relevant points. Each regulation operates to specify the assessable petroleum receipts of a particular taxpayer for their share of the project sales gas of the integrated GTL operation for the year of tax. The taxpayer's share is a share of the total volume of project sales gas that is produced in the upstream stage of the integrated GTL operation in the year of tax; which is not sold at arm's length; and which enters the downstream stage of the operation for further processing (or which is sold at that or an earlier point). The regulations apply only to the taxpayer's share of project sales gas, and only if the taxpayer is a participant in the integrated GTL operation (subregulations 14(2) and 15(2) of the PRRTA Regulations). Otherwise, assessable receipts are worked out as if the sales gas were any other MPC, that is, on the basis of the general provisions of the PRRTAA without the benefit of the specific rules and methodologies of the PRRTA Regulations. A taxpayer is a participant in the integrated GTL operation if they hold an interest in the operation that entitles them to petroleum product of the operation at the end of at least one phase of the operation (regulation 8 of the PRRTA Regulations). Therefore, any taxpayer who is entitled to project sales gas at the end of the upstream stage is a participant in the operation, as the end of the upstream stage and start of the downstream stage is a phase point and the end of a phase (sub-subregulation 6(1)(a) of the PRRTA Regulations, and see the discussion of phase points at paragraphs 72 to 79 of this Ruling).

59. Project sales gas of an integrated GTL operation is the sales gas produced from the project natural gas of the operation and which will be processed into liquefied product in the operation, or used in doing so (subregulation 4(3) of the PRRTA Regulations). So project sales gas includes what becomes liquefied product as well as any sales gas that is returned to and used up (say as fuel) in the upstream stage or used up (say as fuel or as refrigerant) in the downstream stage of the integrated GTL operation. The act of moving on the project sales gas for further processing triggers the need to calculate assessable petroleum receipts if there is no earlier sale ('excluded commodity' paragraph (c), section 2 of the PRRTAA; such movement necessarily precedes or is simultaneous with the further processing or treatment which would also trigger calculation under 'excluded commodity' paragraph (b)). As project sales gas of an integrated GTL operation is the feedstock for conversion to liquefied product or products, it must have been fully processed to be suitable for that use ('sales gas', section 2 of the PRRTAA). The point at which that processing is completed is a matter of fact, and in practice is the point at which the gas is ready to enter the processing by which liquefied product or products are produced from it. Therefore, any non-arm's-length sale making the project sales gas an excluded commodity with a determination of assessable receipts to which regulation 16 of the PRRTA Regulations applies and any later movement for further processing making the sales gas an excluded commodity with a determination of assessable receipts to which regulation 17 of the PRRTA Regulations applies will happen in practice at much the same point. The volume calculation for either regulation will be at practically the same point and no significant disparity between the measurements for either regulation is likely to arise in practice.

60. The volume of project sales gas for which assessable receipts are to be calculated, VG, is defined in regulations 16 and 17 of the PRRTA Regulations as the volume of project sales gas of the taxpayer that is sold other than at arm's length in the assessment year or that becomes an excluded commodity in the assessment year without being sold. A transaction, the volume of gas subject to which is VG under regulation 17, is defined in regulation 17 as the act by which sales gas becomes or became an excluded commodity. Therefore, whether regulation 16 or regulation 17 applies, the relevant point for calculating the assessable receipts is the point at which the taxpayer's share of project sales gas becomes an excluded commodity under section 2 of the PRRTAA.

61. Methane (CH_4) is the main constituent of sales gas. Ethane (C_2H_6), propane (C_3H_8), and butane (C_4H_{10}) are also in a gaseous state at a temperature of 15 degrees Celsius and a pressure of one atmosphere (refer to paragraph 55 of this Ruling or section 2 of the PRRTAA for the definition of sales gas). These hydrocarbons can readily be part of a sales gas substance. Pentane (C_5H_{12}), hexane (C_6H_{14}) and other heavier hydrocarbons are not themselves in gaseous state at a temperature of 15 degrees Celsius and a pressure of one atmosphere. Typically, in an integrated GTL operation, pentane and heavier hydrocarbons must be removed from the gaseous mixture before it can meet the definition of sales gas, because if they are included the mixture is not suitable to be used as feedstock for conversion to a liquefied product. Water, carbon dioxide, hydrogen sulphide and mercury, like the heavier hydrocarbons, can cause problems with the operation of a liquefaction train if they are included in a gaseous feedstock mixture. In a typical integrated GTL operation, until all the heavier hydrocarbons and these impurities have been removed, the gaseous mixture will not meet the definition of sales gas because it would not yet have been processed to be suitable for liquefaction in that operation. However, in any particular integrated GTL operation, if a substance containing some pentane or heavier hydrocarbons or other inclusions meets all of the conditions contained in the definition of project sales gas which includes the condition that it be suitable to be used as feedstock for conversion to a liquefied product, then the substance will meet the definition of project sales gas for that particular integrated GTL operation. Refer to *Alternative view 1* at paragraph 101 of this Ruling for an alternative view. The end of stage three (Pre-cooling for liquefaction) in the diagram after paragraph 46 of this Ruling is the point (point D) where the bulk of sales gas will be produced in an integrated GTL operation as a matter of practice. However, there may be more than one physical point in a particular integrated GTL operation at which project sales gas becomes an excluded commodity, and each of those points will be the end of the upstream stage and the start of the downstream stage (and the point where assessable receipts must be determined, the PRRT taxing point, commonly known as the PRRT ring fence). The taxpayer's share of the sum of the volumes of project sales gas becoming excluded commodities at all such points constitutes the total volume of their project sales gas to which the pricing rules under regulations 16 and 17 of the PRRTA Regulations may apply. Each pricing rule applies only to so much of the taxpayer's share of project sales gas as becomes an excluded commodity in the relevant way, for regulation 16 by being sold other than at arm's length, for regulation 17 other than by being sold. The rules cannot overlap because once any part of the project sales gas has become an excluded commodity it remains so and because what is produced from a marketable petroleum commodity is for that reason not a marketable petroleum commodity itself.

62. The definition of 'excluded commodity' (refer to paragraph 56 of this Ruling or section 2 of the PRRTAA) refers to moving of an MPC to or from a storage site adjacent to its place of production. What is a storage site adjacent to the place of production of an MPC has not been defined in the PRRT legislation and is a question of fact. The distance from the place of production as well as the intention of the taxpayer are relevant in determining whether an MPC is being stored at a place adjacent to its place of production. Storage at a site even a kilometre away from the place of production of an MPC may qualify as adjacent storage if the intention of the taxpayer is to store the MPC until it is sold. On the other hand, moving sales gas produced in an integrated GTL operation through a pipeline even by a centimetre into the next stage for further processing is movement away from the place of production of the sales gas other than to adjacent storage, because the sales gas so moved is not intended to be stored, and causes the sales gas to become an excluded commodity. An MPC that has been moved to a storage site adjacent to the place of its production will become an excluded commodity even when there is no change in its location, if it is sold or is further processed or treated ('excluded commodity', section 2 of the PRRTAA).

63. The upstream stage and the downstream stage of an integrated GTL operation have been defined in regulation 5 of the PRRTA Regulations. The upstream stage will normally end at the point when an assessable receipt arises, that is, when natural gas recovered from the project is converted into sales gas (an MPC) and that sales gas is moved on for further processing (or sold, in practice necessarily at the same point as discussed at paragraph 59 of this Ruling). Transportation and further processing of sales gas into liquefied product take place in the downstream stage. The assessable petroleum receipts of a taxpayer from the sales gas produced in an integrated GTL operation are calculated at the point separating the two stages (the PRRT ring fence) by applying regulations 16 and 17 of the PRRTA Regulations. Where those provisions apply the RPM price to the relevant gas volume, that price is specified by regulations 20 and 21 of the PRRTA Regulations. Where there is sufficient information and there is no advance pricing arrangement or CUP (comparable uncontrolled price) applicable, the RPM price worked out in accordance with regulation 20 is the average of the cost-plus price under regulation 22 and the netback price under regulation 23 of the PRRTA Regulations, with the RPM method and its necessary information further specified by Part 5 of the PRRTA Regulations.

64. The liquid stream separated at the end of 'Recovery of petroleum' stage may have natural gas dissolved in it in practice. Similarly, the liquid stream separated at the end of 'Pre-cooling for liquefaction' stage may have constituents of sales gas dissolved in it. If project sales gas is recovered from either liquid stream that has been separated from the gas stream and the recovered gas joins the mainstream flow of sales gas, the point where gas is recovered from the liquid stream will also represent the PRRT ring fence. Where sales gas is produced at more than one point in an integrated GTL operation, there will be more than one point that represents the PRRT ring fence (refer to Example 1, paragraph 33 of this Ruling). If the gas recovered is not yet project sales gas, for instance because it includes things that have to be removed before it will have been processed to be suitable as feedstock for the production of liquefied products, the point at which it is recovered from the liquid may be a phase point but will not be a point at which assessable receipts arise.

65. The volume of gas that is recovered from the liquid stream separated at the end of the 'Pre-cooling for liquefaction' stage is produced from natural gas recovered from the petroleum project that belongs to the integrated GTL operation (assuming that only gas recovered from the project is processed in the operation). In a typical operation this gas will join the mainstream sales gas to be processed into project liquid within the operation. If it does not itself meet the definition of sales gas in section 2 of the PRRTAA, it will still meet the definition of project natural gas at the point when it is recovered. When this gas joins the mainstream sales gas (if it does so), it then becomes part of project sales gas in any case. The recovered gas does not undergo any change between the point where it is recovered and the point where it joins the mainstream sales gas. Therefore, for administrative convenience, there is no practical reason why it should not be treated as sales gas from the point of its recovery from the liquid stream.

66. On the other hand, it is possible that liquid petroleum separated at the end of 'Recovery of petroleum' or 'Pre-cooling for liquefaction' stage is sold as condensate without recovering any gases dissolved in it. In that case, the liquid petroleum will meet the definition of other MPC (not a project product) produced in an integrated GTL operation and no part of the costs from that point of separation will form part of the costs of the integrated GTL operation taken into account in calculating the RPM price. At the moment that the MPC that is not project product becomes an excluded commodity, there will be an assessable petroleum receipt in relation to it pursuant to section 24 of the PRRTAA.

67. VG is defined for regulation 17 of the PRRTA Regulations as the volume of project sales gas that becomes an excluded commodity other than by sale, practically by being moved to further processing in the integrated GTL operation. It represents the volume of project sales gas that becomes an excluded commodity without sale and gives rise to assessable receipts for the calculation of PRRT payable by a taxpayer. Therefore, VG is measured at the PRRT ring fence, the point representing the end of the upstream stage and the start of the downstream stage. It follows that where a number of points in the entire operation represent the PRRT ring fence, VG is the taxpayer's share of the sum of the volumes of project sales gas measured at all those points (refer to Example 1 at paragraph 33 of this Ruling).

68. The definitions of project natural gas and project sales gas in regulation 4 of the PRRTA Regulations specifically include any natural gas or sales gas used in the project (for example, as fuel or refrigerant in the integrated GTL operation). Therefore, once the volume of project sales gas has been measured (upon its being moved into the downstream stage), taking project sales gas for fuel would not affect the measured amount of VG.

69. Project liquid is usually stored at very low temperatures in insulated tanks before it is loaded on ships. It is normal for some of the project liquid to evaporate and sales gas produced by the evaporation of project liquid may be used as fuel or returned as feedstock for liquefaction in the integrated GTL operation. This sales gas would have been produced from another MPC, namely, the sales gas that was already included in the definition of VG. Therefore, sales gas generated from the evaporation of project liquid and returned as feedstock for liquefaction will not meet the definition of an MPC when returned, will not become an excluded commodity at that point (section 2 of the PRRTAA) and its volume does not have to be added again to the volume of sales gas measured at the end of the upstream stage for which assessable receipts arise.

70. The calculation of a cost-plus price in regulation 22 of the PRRTA Regulations and a netback price in regulation 23 of the PRRTA Regulations also require measurement of the volume of project sales gas (VPSG), the volume of project sales gas produced in the integrated GTL operation in the year of tax. VPSG is the total volume of project sales gas of the integrated GTL operation that is produced in the upstream stage in the year of tax, not just the taxpayer's share of project sales gas. This is because the cost-plus price under regulation 22 allocates total upstream costs of all participants for a year of tax proportionately to all project sales gas of that year, and the netback price under regulation 23 allocates total downstream costs of all participants for a year of tax proportionately to all project sales gas of that year. (This is why participants need not be entitled to any share of project sales gas at the taxing point, if they are entitled to any petroleum product of the operation at the end of any phase, under regulation 8 of the PRRTA Regulations.) In applying energy coefficients to costs of a phase, so as to work out the proportion of those costs that represent costs of producing and processing project sales gas, the energy content of the total phase hydrocarbons (the energy content of project product in the numerator and the energy content of all petroleum in the denominator) is used for the purposes of regulation 37 of the PRRTA Regulations. This is regardless of which participants have interests in them, and not just having regard to the taxpayer's share. However, the foregoing analysis for volume measured and the point at which it is measured is otherwise equally relevant to the measurement of VPSG under regulations 22 and 23. It is also relevant to the measurement of VTDG, the taxpayer's share of the volume of project sales gas, as defined in regulation 23. As the energy content of project sales gas is measured at the end of the upstream stage, as a phase point, the foregoing analysis of the volume for which the energy content is measured and the point at which it is measured is then relevant for the purposes of regulation 37.

71. PRRT instalments (the notional tax amount) for a participant in an integrated GTL operation are calculated under Part 6 of the PRRTA Regulations. The formulae for the calculation of the notional tax amount of a participant who uses the RPM price for the calculation of assessable petroleum receipts for sales gas under regulations 14 or 15 of the PRRTA Regulations require the measurement of VPG_{prev} , the participant's, or the predecessor participants', share of project sales gas for the previous year of tax (depending on whether regulation 39 or regulation 40 of the PRRTA Regulations applies); or VPG, the participant's share of project sales gas for the instalment period (regulation 40). Therefore, the foregoing analysis of the volume measured and the point at which it is measured for the purposes of regulations 16 and 17 of the PRRTA Regulations also applies to the measurement of VPG_{prev} and VPG for the purposes of regulations 39 and 40.

Apportionment of costs between project product and other petroleum commodities

72. An integrated GTL operation will usually produce condensate and sales gas. Some or all of the sales gas produced is converted to project liquid. Where some of the natural gas or sales gas from an integrated GTL operation is used for non-project purposes (for example, as pipeline gas for a fertiliser plant or for domestic gas supply) or natural gas or sales gas from an external project is processed in the integrated GTL operation, that natural gas (or sales gas) will not meet the definition of project natural gas (or project sales gas) and assessable receipts for it will arise as if it was another MPC and not project sales gas of the integrated GTL operation. A particular integrated GTL operation may produce other MPCs that are not part of project liquid produced from project sales gas. Therefore, the costs (both operating costs and allocated capital costs) of the operation must be apportioned for each year between producing project product and all petroleum or petroleum product recovered, processed or produced in the operation (adopting the definition of 'petroleum product', regulation 3 of the PRRTA Regulations, as the allocation of phase costs is worked out only on the energy content of project product as a ratio to all petroleum product, regulation 37 of the PRRTA Regulations). Project product of an integrated GTL operation consists of:

- project natural gas, that is, the gas stream of the petroleum project from which sales gas will be produced and processed into liquefied product by the project or used in doing so;
- project sales gas, that is, the sales gas produced from the project natural gas and which will be processed into liquefied product by the project or used in doing so; and
- project liquid, the liquefied product processed from project sales gas (subregulations 4(2), 4(3), 4(4) and 4(5) of the PRRTA Regulations).

Petroleum product of an operation means petroleum or a product of petroleum that is recovered, produced or processed in the operation (definition, ***petroleum product***, regulation 3 of the PRRTA Regulations). It is not limited to marketable petroleum products and their precursors, as it needs to include all petroleum or products of petroleum in each phase, both upstream and downstream, even if a marketable petroleum product has already been produced and is included in the phase.

73. In order to apportion costs and to determine the assessable receipts for project sales gas produced and processed in the integrated GTL operation, the whole operation is divided into a number of phases. The start and the end of each phase are phase points. The apportionment of costs is done on the basis of the ratio of energy content of project product to the energy content of total petroleum or petroleum product flowing through a phase (regulation 37 of the PRRTA Regulations). The definition of a phase point means that this ratio is constant throughout a phase, and so provides a common basis for apportioning all costs of the phase.

74. The point where the upstream stage ends and the downstream stage starts is always a phase point (sub-subregulation 6(1)(a) of the PRRTA Regulations), whether or not the ratio of project product to total petroleum changes at that point. This is because upstream costs applicable to the cost-plus calculation must be separated from downstream costs applicable to the netback calculation. Assessable receipts of a taxpayer for a year of tax are determined for the volume of project sales gas at the end of the upstream stage (regulations 16 and 17 of the PRRTA Regulations). As discussed in paragraphs 61 and 64 of this Ruling, there can be more than one physical point in an integrated GTL operation where sales gas becomes an excluded commodity and so where the upstream stage ends and the downstream stage begins. All such physical points will be phase points and they each represent part of the end of the upstream stage.

75. A phase point arises at any other point in an integrated GTL operation where the ratio of project product to total petroleum ('petroleum product') (measured by their energy content, under regulation 37 of the PRRTA Regulations) flowing through the operation changes (sub-subregulation 6(1)(b) of the PRRTA Regulations). The start of the upstream stage is the point where petroleum is recovered from the project as part of the integrated GTL operation. At the end of the downstream stage project liquid of the integrated GTL operation leaves the operation and no further phases can arise. Therefore, the start of the upstream stage and the end of the downstream stage are always practically phase points as explained in the Explanatory Statement.

76. The location of other phase points depends on the change in the proportion of project product to total petroleum ('petroleum product'), measured by their energy contents. A change in the total volume or total energy content may occur within a phase and does not necessarily give rise to a phase point. For a phase point to exist, the ratio of project product to total petroleum (measured by their energy content) must change (the Explanatory Statement, explanation to regulation 6 of the PRRTA Regulations). It is possible for the quantum of flow and the energy content to change at a point without affecting the ratio of project product to total product (for example, the flow of gas may be split into two or more streams for processing in different liquefaction trains or petroleum may be taken as fuel proportionately from all petroleum products in a phase). A point where the quantum of flow (or of the energy content) changes, but the ratio of project product to total product does not change, will not be a phase point.

77. The use of petroleum as fuel or as refrigerant in the upstream stage or the downstream stage of the integrated GTL operation is use for the purposes of the project (regulation 4, subregulation 23(1) and regulation 40 of the PRRTA Regulations). If at a particular point an activity such as taking petroleum for fuel or venting of gas takes petroleum proportionately from all the petroleum products in the phase, the ratio of project product to total product will not change. Therefore, no phase point will be created as a result of that activity. A volume of sales gas that is taken from the downstream stage for use as fuel in the upstream stage is also included in the measurement of project sales gas. Gas used as fuel in the overall integrated GTL operation is specifically included in the definitions of project natural gas, project sales gas (subregulations 4(2) and 4(3)), VTDG (subregulation 23(1)), VPG and VPG_{prev} (subregulations 40(2) and 40(3)) (refer to Example 2, paragraphs 34 and 35 of this Ruling).

78. The concept of multiple use of a phase is defined in regulation 7 of the PRRTA Regulations. Each subregulation of regulation 7 explains the principle that is relevant to different processes within an integrated GTL operation. Subregulation 7(1) explains that there is multiple use in a phase related to recovery when petroleum other than project natural gas of the integrated GTL project is recovered too. Subregulation 7(2) explains that there is multiple use in a phase related to production of project sales gas when marketable petroleum products other than project sales gas of the integrated GTL project are produced as well. Subregulation 7(3) explains that there is multiple use in a phase related to processing of project sales gas into project liquid when there is processing into liquid of petroleum that is not also project sales gas of the integrated GTL project. Subregulation 7(4) explains that there is multiple use in a phase related to transportation of project product when petroleum that is not project product of the integrated GTL project is transported too. Subregulation 7(5) explains that there is multiple use of a storage facility when it is used to store petroleum that is not project product of the integrated GTL project too. Subregulation 7(6) explains that there is multiple use of a loading facility when it is used to load petroleum that is not project product of the integrated GTL project too. However, the actual apportionment of costs between project product and other petroleum is made by applying the formula in regulation 37 of the PRRTA Regulations. Irrespective of whichever subregulation of regulation 7 applies to a phase, and the references there to units of property in some contexts, the formula for apportionment of all costs for all the phases remains the same and applies to all phase costs, not only allocated capital costs of a phase. Apportionment does not apply to costs which are not phase costs, such as indirect costs or personal costs (regulation 37, and see note to subregulation 32(4) of the PRRTA Regulations). Apportionment also does not apply to the costs incurred in processing project product. All the included costs (refer to paragraph 81 of this Ruling) of processing project natural gas to extract gaseous condensate and other impurities, whether they are marketable or not, are applied to the production of project sales gas and are included in the cost-plus component of the RPM price.

All of the included costs of processing project sales gas to produce project liquid are applied to the production of project liquid and are included in calculating the netback component of the RPM price. Refer to Example 3 at paragraph 36 of this Ruling for an example of apportionment of costs between project product and other commodities of the petroleum project and Example 4 at paragraph 37 of this Ruling for an example of apportionment of costs between project product and other petroleum commodities.

79. The energy coefficient for a phase, as defined in regulation 37 of the PRRTA Regulations, depends on the ratio of the energy content of project product entering the phase to that of all of the petroleum product entering the phase (definitions of 'Phase project energy' and 'Total phase energy' in regulation 37). A change to the petroleum after it has entered a phase need not affect the calculation of the energy coefficient. For example, if sales gas is taken proportionately as fuel for the upstream stage of the operation from a phase that is in the downstream stage, the energy coefficient for each phase is not affected. The following illustrations depict phase points and phases.

Figure 2: The point where the petroleum recovered in a typical integrated GTL operation is separated into petroleum (natural gas) and other petroleum is a phase point (refer to paragraphs 51 and 88 to 90 of this Ruling).

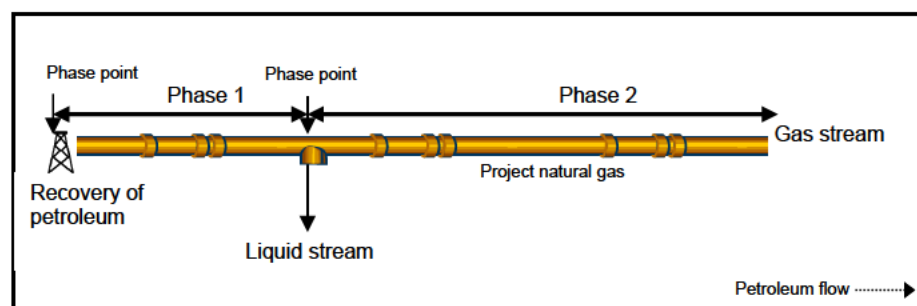


Figure 3: The point where the upstream stage ends and the downstream stage starts is always a phase point (refer to paragraph 74 of this Ruling).

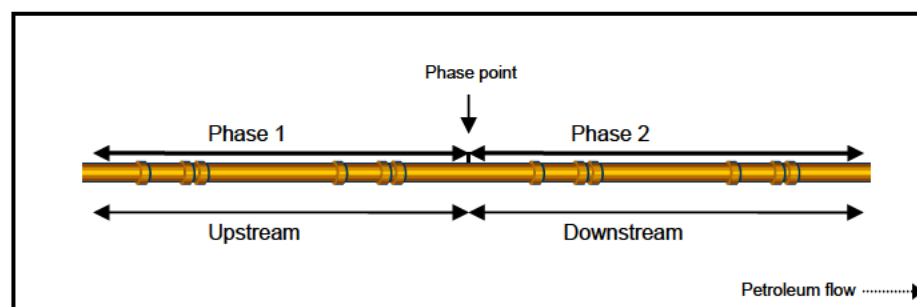


Figure 4: The point during the processing of project natural gas at which the condensate mixture is removed constitutes a phase point. (Note that if no recoverable project natural gas was contained in the condensate mixture, then there would not be a phase point in relation to the condensate mixture.)

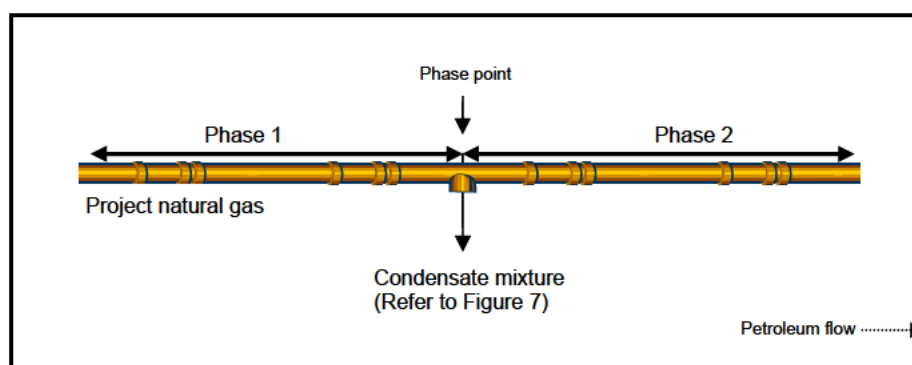


Figure 5: A phase point arises where the ratio of project product to total petroleum flowing through the operation changes, for example, where the integrated GTL operation processes petroleum from an external project.

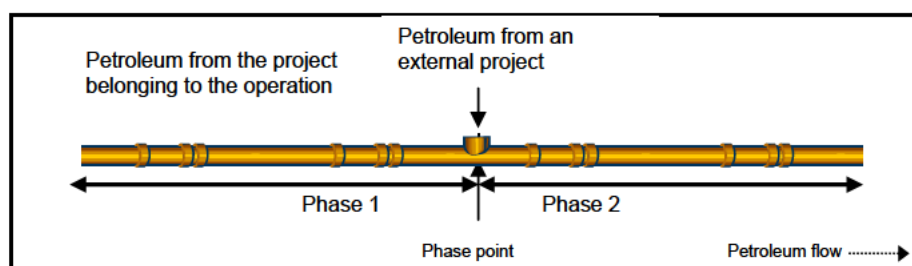


Figure 6: A phase point arises where the ratio of project product to total petroleum flowing through the operation changes, for example, where natural gas or sales gas is taken for non-project use.

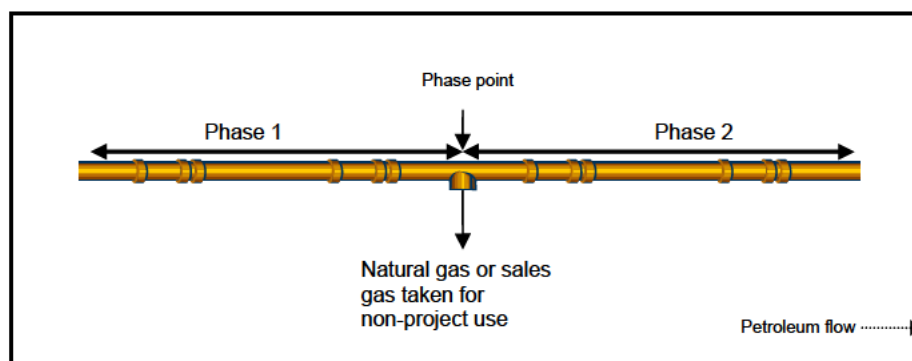


Figure 7: A phase point arises where the ratio of project product to total petroleum flowing through the operation changes.

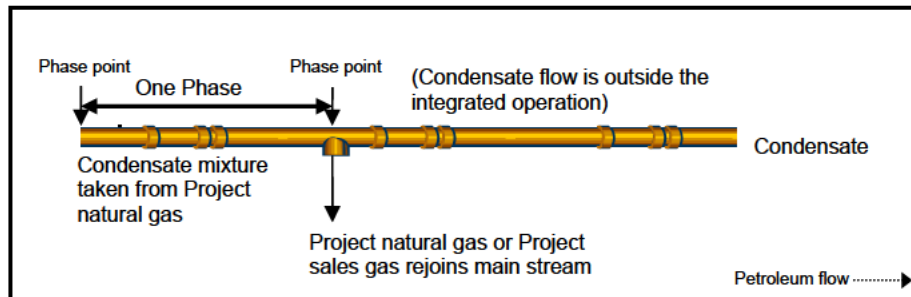
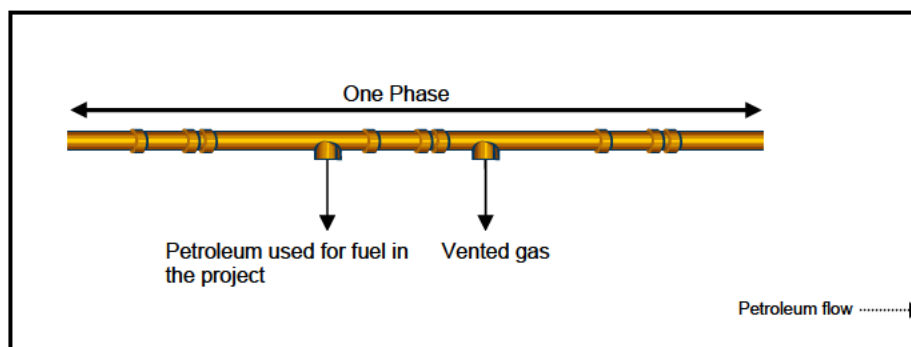


Figure 8: Where fuel for the project or venting of gas takes petroleum proportionately from all petroleum products in a phase, no phase point arises (refer to paragraph 77 of this Ruling).



80. Regulatory authorities, for example Commonwealth and State Government departments, may impose conditions on the participants in an integrated GTL operation in order to change the impact of the project. Costs are incurred in complying with the regulatory requirements imposed by Government. A cost of complying with the regulatory requirements will be a direct cost so far as it relates to a single phase or can be reasonably apportioned to a number of phases either solely in the upstream stage or solely in the downstream stage (regulation 28 of the PRRTA Regulations). However, this will only be so far as it is a relevant sector cost, wholly and directly attributable to production, to transport, to storage, to marketing, or to selling as part of the integrated GTL operation. For example, the cost of separating carbon dioxide in the process of removing impurities from natural gas, or pursuant to a regulatory requirement, would be a direct cost of the upstream stage of an integrated GTL operation. However, the cost of sequestering that carbon dioxide would not be a direct cost of the upstream stage because it is not an included cost (item (d) of regulation 27 and regulation 30 of the PRRTA Regulations). If a cost relates to the entire project in a way that is not wholly and directly attributable to relevant sectors, for example, the cost of insurance of the integrated GTL operation, it is treated as an indirect cost.

A cost that is attributable both to upstream and downstream stages will only be divided into two direct costs (one upstream, one downstream) if it exceeds the threshold amount specified in subregulation 28(7). Below the threshold, it is an indirect cost. Indirect costs are divided into two halves, one attributed to the upstream stage, the other to the downstream stage (refer to Example 5 at paragraph 38 of this Ruling).

81. Regulation 25 of the PRRTA Regulations provides details of the steps required in calculating the RPM. The RPM is a method to calculate a transfer price for project sales gas which is used to ascertain the assessable petroleum receipts of a taxpayer. Step 6 of the RPM requires the taxpayer to identify the amounts of the relevant included costs. These include capital costs incurred up to and including the assessment year. Included costs are defined in regulation 30 of the PRRTA Regulations. Included costs are costs associated with an integrated GTL operation that are not specifically excluded by regulation 27 or regulation 29 of the PRRTA Regulations (costs relating to exploration, feasibility study, environmental study, removal of infrastructure, environmental restoration and those costs which are excluded costs for the purposes of the PRRTAA other than GST, indirect administrative, accounting and work costs, and land or building costs for administrative or accounting activities are specifically excluded, as are the personal costs of other participants in the integrated GTL operation).

82. Where an item of plant that was originally acquired for use in an integrated GTL operation ceases to be used in the operation, the costs incurred in acquiring that item are no longer associated with the operation. Therefore, they cease to be included costs. Furthermore, in step 3 of the RPM, all included costs are divided into direct costs, indirect costs and personal costs. Personal costs relate to marketing and selling of project liquid. Direct costs relate to either the upstream stage or the downstream stage whereas indirect costs must be below a certain threshold and relate to the upstream as well as the downstream stage (regulation 28 of the PRRTA Regulations). Costs relating to an item of plant that has ceased to be used, would not fall into any category of included costs. Capital costs have amounts allocated for them in each year of tax during the expected life of the unit of property to which they relate, or (where they are deemed capital costs because they were incurred before the production date) each year during the expected life of the project, under regulation 36 of the PRRTA Regulations. Costs for an item that has ceased to be used are no longer included costs and so no further amount will be allocated for them in years in which the unit of property is no longer used (the Explanatory Statement, explanation to regulation 36).

83. As stated in paragraph 81 of this Ruling, the RPM is a method to calculate a transfer price for project sales gas which is used to ascertain the assessable petroleum receipts of a taxpayer in relation to that gas. Sale proceeds from an item of plant that has ceased to be used in the integrated GTL operation do not form part of the RPM price calculation process. This does not mean that the proceeds from the sale of an item of plant are not subject to PRRT. The sale proceeds may be themselves included in the assessable receipts of the taxpayer under another provision of the PRRTAA (for example, section 27 of the PRRTAA) rather than through any application of the RPM method to project sales gas.

Allocation of capital costs

84. Capital costs are defined in regulation 31 of the PRRTA Regulations and include costs that are for a unit of property that is a depreciating asset for the purposes of section 40-30 of the ITAA 1997. Costs of marketing and selling project liquid cannot be capital costs: they are personal costs of the particular taxpayer, taken into account only in working out the netback price component of RPM under regulation 23 of the PRRTA Regulations. Included costs (refer to paragraph 81 of this Ruling) that are incurred in a year of tax prior to the year of tax in which project sales gas is first processed into project liquid in the integrated GTL operation are treated as capital costs. Included costs relating to depreciating assets (as defined in section 40-30 of the ITAA 1997) are also capital costs, whether incurred before the first year in which project sales gas is processed into project liquid of the integrated GTL operation or later.

85. Capital costs are augmented or reduced if regulations 33 to 35 of the PRRTA Regulations apply to them. Step 10 of the RPM (regulation 25 of the PRRTA Regulations) requires an annual allocation of capital costs (made according to regulation 36 of the PRRTA Regulations). The formula for the allocation depends on the expected operating life of the unit of property to which the cost relates (for costs incurred for a depreciating asset for section 40-30 of the ITAA 1997), or on the expected operating life of the integrated GTL operation (for costs which are treated as capital costs only because they were incurred before the year the integrated GTL operation first produced project liquid from project sales gas) (subregulations 36(2) and 36(7)). This annual allocation is used to calculate a cost-plus price and a netback price for project sales gas (step 13 of the RPM in regulation 25). The formulae for the calculation of cost-plus price and netback price require that the annual allocation of capital costs for the upstream stage and the downstream stage be multiplied by a volume coefficient (regulations 22 and 23 of the PRRTA Regulations).

86. The volume coefficient is defined in regulation 10 of the PRRTA Regulations. The numerator in the formula for the volume coefficient is the volume of project natural gas in the relevant year of tax. The denominator in the formula for the volume coefficient is the estimated average annual volume of project natural gas, defined in regulation 9 of the PRRTA Regulations (if the current year is before the base year, as defined in regulation 10); the volume of project natural gas used to produce project liquid in the year of tax (if the current year is the base year); or average annual volume of project natural gas used to produce project liquid since the base year (if the current year is after the base year).

87. The volume coefficient ensures that in calculating the cost-plus and netback prices a higher amount for capital costs is taken into consideration in the years when a higher volume of project natural gas is produced compared to the estimated average volume of project natural gas or, if actual production for any year has ever been higher, the achieved average volume from that year (refer to Example 6 at paragraph 39 of this Ruling). A lower amount for capital costs is taken into consideration in the years when a lower volume of project natural gas is used. The volume coefficient only affects the amount for capital costs taken into consideration when calculating the cost-plus and netback prices for a particular year. The apportionment of costs by using the energy coefficient (for each phase) affects these amounts for capital costs as well as operating costs.

88. Project natural gas of an integrated GTL operation is defined in subregulation 4(2) of the PRRTA Regulations as the petroleum (natural gas) recovered from the project from which sales gas will be produced and processed into project liquid. Project natural gas therefore includes all of the petroleum that is recovered in gaseous state (for example, pentane and hexane), or as gas dissolved in liquid, from the petroleum project from which project liquid will be produced (the term 'petroleum (natural gas)' is not the same as what is commercially known as 'natural gas'). Natural gas used up in the production and processing within that operation is included in the definition of project natural gas.

89. In a typical integrated GTL operation, petroleum is recovered in gaseous and liquid form. The gaseous petroleum is project natural gas; the liquid petroleum is other petroleum. Some natural gas is dissolved in the liquid petroleum stream and may be released by heating the liquid stream. This gas may be used as fuel or it may join the mainstream natural gas flow to be processed into sales gas and then project liquid. Where no natural gas is taken out of the operation for non-project purposes, all of the natural gas, whether recovered in gaseous form or initially dissolved in the liquid petroleum, will meet the definition of project natural gas (subregulation 4(2) of the PRRTA Regulations). Refer to *Alternative view 3* at paragraph 105 for an alternative view and an analysis of that view.

90. As discussed in paragraph 75 of this Ruling, the recovery of petroleum is the start of the upstream stage and is always a phase point. In a typical integrated GTL operation the costs of the first phase are apportioned between the initial gas stream, which is project product (project natural gas), and other petroleum (the liquid stream minus project natural gas dissolved in it). The project natural gas dissolved in the liquid petroleum is not likely to be separated until a later phase (the point where liquid and gas stream are separated will be a phase point). As all of the project natural gas enters the first phase its energy content must be included in the energy content of project product entering the phase.

91. It may not be practicable for a taxpayer to measure the energy content and volume of project natural gas at the start of the upstream stage. The Commissioner will accept the measurement of energy content and volume of project natural gas at any other point (such as the end point, commonly at the slug catcher) in the phase or even in a later phase provided all of the project natural gas recovered from the project is included in this measurement. For example, a taxpayer can measure the volume of project natural gas at the point where the liquid stream and the gas stream are separated and add to it the volume of project natural gas recovered from the liquid stream (assuming that no natural gas is taken for use as fuel or vented prior to these points; alternatively, those volumes would also be added to it). This principle can also be applied to measuring other gas and liquid volumes.

92. Regulation 9 of the PRRTA Regulations requires that in the year before the production year, the relevant taxpayers should give to the Commissioner the estimate of the operating life of the operation (N) and of the total volume of project natural gas to be recovered during the life of the operation (VNG). As discussed in the preceding paragraphs, natural gas used as fuel or vented in an integrated GTL operation and natural gas recovered from the liquid stream are included in the actual volume of project natural gas. Since VNG is the estimate of the total volume of project natural gas to be recovered during the life of the operation, it should take into consideration all of the natural gas that is expected to be recovered from the project. This should be both what is already in gaseous form as well as the gas dissolved in liquid petroleum. Although VNG is a reasonable estimate, the taxpayer must take reasonable care in considering all of the information available in making this estimate. Subregulation 9(4) requires that if the estimate for N or VNG changes (when new information becomes available), the revised estimate of N or VNG must be communicated to the Commissioner. VNG is not the same as the expected optimum level of annual production times the number of years in the operating life of the operation. It arrives at estimated average annual volume of project natural gas from the total volume estimated to be produced over the life of the project and the total estimated life of the project, rather than the other way round.

93. The estimated average annual volume of project natural gas calculated from the estimates of N and VNG is compared to the actual volume of project natural gas processed in the operation to determine the base year, the year in which the actual volume of project natural gas first exceeds the estimated average annual volume (regulation 10 of the PRRTA Regulations). In a typical integrated GTL operation the actual volume of project natural gas will be lower in the starting years and increase, falling again towards the end of the life of the operation. Therefore, the estimated average annual volume of project natural gas will probably be less than the optimum level of production. Multiplying the optimum level of production with the estimated life of the operation to calculate VNG will give a higher estimate of VNG. This method of estimating VNG will not be a reasonable estimate of VNG (refer to Example 6 at paragraph 39 of this Ruling).

Measurement of gas and liquid volumes

94. The PRRTA Regulations do not specify any units of measurement for gas and liquid volumes. The discussion on regulation 37 of the PRRTA Regulations (calculation of the energy coefficient) in the Explanatory Statement states that where the International System of Units is used, the energy content is measured in gigajoules at a temperature of 15 degrees Celsius and one atmosphere pressure. As the Explanatory Statement does not refer to any unit for measuring gas and liquid volumes, the Commissioner will accept any standard unit that is used in the petroleum industry to measure the gas and liquid volumes provided it is used consistently across the whole operation over the life of the operation. This is because there are a number of formulae prescribed in the PRRTA Regulations and for these formulae to operate properly, it is necessary that the measurement of gas and liquid volumes is consistent across the operation. Where a taxpayer needs to change the unit of measurement for operational reasons, the taxpayer should request an approval of the new unit of measurement from the Commissioner and should convert all measures used thereafter in any applicable ratios under the PRRTA Regulations to the new unit (refer to Example 9 at paragraph 42 of this Ruling).

95. Project product is defined in subregulation 4(5) of the PRRTA Regulations. Project product consists of project natural gas of the integrated GTL operation (from which sales gas will be produced and processed into liquefied product within the operation), project sales gas (produced from project natural gas and which will be processed into liquefied product within the operation) and all liquefied products derived from project sales gas (for example, LNG, LPG, liquefied ethane, liquefied propane and liquefied butane) (regulation 4 of the PRRTA Regulations). A typical integrated GTL operation will produce liquefied methane, liquefied ethane, liquefied propane and liquefied butane as project liquid. While methane is the main constituent of LNG, the other three may be sold separately; mixed with other MPCs (for example, with LNG or condensate); mixed together and sold (for example, as LPG); or used as fuel or refrigerant. Some of the project liquid may evaporate and the gas produced by the evaporation may be vented, used as fuel or compressed and re-liquefied. As discussed in previous paragraphs of this ruling, venting and use as fuel in the integrated GTL operation is use in the integrated GTL operation.

96. PLVal is defined in subregulation 23(1) of the PRRTA Regulations as the total market value of the project liquid produced in a year of tax in an integrated GTL operation. As discussed in the previous paragraph, project liquid includes liquefied methane, liquefied ethane, liquefied propane and liquefied butane. Therefore, the market value of all of these liquefied products produced in a year of tax is relevant in calculating PLVal (refer to Example 7 at paragraph 40 of this Ruling). In determining the assessable petroleum receipts from an MPC, section 24 of the PRRTAA generally takes into consideration the receipts from the sale of an MPC and the market value of the MPC that becomes an excluded commodity by further processing. This principle does not apply to project liquid because project liquid is not an MPC: it and its components have been produced from the relevant MPC (project sales gas) and so are excluded from being MPCs ('marketable petroleum commodity', section 2 of the PRRTAA). The relevant MPC is project sales gas that becomes an excluded commodity by being moved into further processing into project liquid. All of the project sales gas processed in the integrated GTL operation in a year of tax becomes an excluded commodity, and the market value of all the project liquid produced in the same assessment year must be included in the calculation of the RPM price irrespective of whether the project liquid is sold that year or not.

97. The market value of project liquid can be determined by adding to (or subtracting from) the sale proceeds for project liquid, the market value of any change in the volume of project liquid in storage. The change in the volume of project product in storage can be calculated practically by measuring the liquid volume in the liquefied product storage tanks at the start and the end of a year of tax. Since different liquefied gases that are included in project liquid have different boiling points, it is practical for them to be stored in separate tanks. Therefore, all sales of project liquid and changes in the liquid volume in all the storage tanks for all the products that constitute project liquid of the integrated GTL operation must be taken into consideration when calculating PLVal (refer to Example 8 at paragraph 41 of this Ruling).

98. In some cases, a part of project liquid may be mixed with another MPC that is not project product (even with condensate). Sale proceeds from such a mixture should be apportioned between project product and other MPC so that an appropriate amount for the project liquid sold as a mixture with another MPC is included in PLVal.

99. PRRT instalments (notional tax amount) of a taxpayer are calculated in accordance with Part 6 of the PRRTA Regulations. The formulae prescribed in regulations 39 and 40 of the PRRTA Regulations also require a taxpayer to calculate the value of their share of project liquid for the current year of tax and/or the value of their share (or the predecessor owner's share) of the project liquid for the previous year of tax. The above discussion is equally relevant to the calculation of $PLVal_{prev}$, the value of project liquid in regulations 39 and 40.

Appendix 2 – Alternative views

❶ *This Appendix sets out alternative views and explains why they are not supported by the Commissioner. It does not form part of the proposed binding public ruling.*

100. Alternatives views relating to the issues discussed in the Explanation section of this Ruling have been considered in this section. The reasons the Tax Office considers the alternative views to be incorrect are explained in the 'Analysis' following each alternative view.

Measurement of the volume of project sales gas for the purposes of regulation 17 of the PRRTA Regulations

Alternative view 1

101. In a typical integrated GTL project, project sales gas comes into existence at the end of 'Removal of impurities' stage. When impurities are removed from natural gas it becomes sales gas. At the end of the 'Removal of impurities' stage, the gaseous mixture may still be a combination of condensate and sales gas. Nevertheless, the end of 'Removal of impurities' stage is the PRRT ring fence for the purposes of determining assessable petroleum receipts.

Analysis

102. At the end of the 'Removal of impurities' stage as described, the gaseous mixture consists of methane, ethane, propane, butane, pentane and hexane and possibly other heavier hydrocarbons and minute quantities of impurities (many of which would not separately be gaseous at 15°C and a pressure of one atmosphere). Presence of pentane and hexane in the gaseous mixture generally means that the mixture cannot meet the definition of project sales gas because the substance would not be in a gaseous state at 15°C and one atmosphere, a condition in the definition of sales gas (refer to paragraph 55 of this Ruling). The presence of any significant amount of pentane and hexane in the gaseous mixture is also likely to mean, in practice, that the mixture has not yet been fully processed so as to be ready for use as a feedstock for conversion to project liquid, as that conversion normally is by a process that can only be carried out on a mixture of gases that does not include any significant amounts of pentane, hexane, or heavier hydrocarbons. Under the PRRTAA, assessable petroleum receipts arise when petroleum is sold or an MPC produced from petroleum becomes an excluded commodity (for example, by sale or further processing). Sales gas and condensate are included as separate items in the definition of MPC in section 2 of the PRRTAA. However, a mixture of these two items would not ordinarily meet the definition of either MPC (though, if it did so, any further MPC produced from the mixture is to that extent excluded from being an MPC).

In an integrated GTL operation sales gas will usually become an excluded commodity by being moved from its place of production for further processing. This can generally only happen after sales gas and heavier substances (potentially forming part of condensate) have been separated.

Measurement of gas and liquid volumes

Alternative view 2

103. PLVal should only include the sale proceeds for LNG. The volume of project liquid in the tank does not become an excluded commodity until it is sold. Therefore, it should not be taken into consideration. Where some of the liquefied ethane, liquefied propane or liquefied butane is added into condensate, the MPC sold is condensate, not LNG. Therefore, there is no requirement to include part of the sale proceeds of condensate in PLVal.

Analysis

104. In a typical integrated GTL operation sales gas is the relevant MPC that becomes excluded commodity when it is moved into the downstream stage for processing into project liquid. The definition of MPC in section 2 of the PRRTAA includes sales gas. A product produced from another MPC cannot be an MPC. Project liquid is not an MPC because it is produced from sales gas that is itself an MPC. Therefore, it is the completion of the production of sales gas, at the end of the upstream stage, that triggers the need to calculate assessable petroleum receipts. The sale of project liquid (processed from project sales gas) does not trigger the calculation of assessable petroleum receipts for the purposes of an integrated GTL operation. Therefore, it is reasonable and appropriate that the total quantity of project liquid produced in a year of tax, including the quantity that is not sold (and reduced by a reduction in project liquid on hand, as this reflects sale from earlier years' production), is relevant to the calculation of a netback price in regulation 23 of the PRRTA Regulations.

Apportionment of costs between project product and other petroleum commodities***Alternative view 3***

105. Pentane and heavier hydrocarbons present in the gas stream along with a range of impurities in the 'Removal of impurities' stage cannot be treated as part of project natural gas. What is commercially known as 'natural gas' does not contain pentane and heavier hydrocarbons. Natural gas is only sales gas with impurities such as carbon dioxide, hydrogen sulphide, water and nitrogen. If the commercial meaning of 'natural gas' is used, the gas stream in the 'Removal of impurities' stage should be treated as a mixture of natural gas and condensate and costs apportioned accordingly.

Analysis

106. Natural gas has not been defined in the PRRT legislation. However, project natural gas has been defined in subregulation 4(2) of the PRRTA Regulations as the petroleum (natural gas) of the project from which sales gas will be produced and processed into liquefied product. The commercial meaning of a term can be used provided the term has not been defined in the legislation. The words 'petroleum (natural gas)' are not the same as 'natural gas'. Petroleum (natural gas) includes all of the petroleum that is recovered in gaseous state, or as gas dissolved in liquid, from the petroleum project.

Appendix 3 – Detailed contents list

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References

Previous draft:

TR 2008/D4

Related Rulings/Determinations

TR 2006/10

Subject references:

- liquefied petroleum gas
- marketable petroleum commodities
- petroleum resource rent tax
- PRRT assessable petroleum receipts
- sales gas
- transfer pricing

Legislative references:

- PRRTAA
- PRRTAA 2
- PRRTAA 21
- PRRTAA 23(1)
- PRRTAA 24
- PRRTAA 24(1)
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- PRRTAA 24(1)(e)
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- PRRTAA 27
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- PRRTA Regulations 3
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- PRRTA Regulations Pt 5
- PRRTA Regulations 25
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- PRRTA Regulations 39
- PRRTA Regulations 40
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Other references:

- Explanatory Statement, Select Legislative Instrument 2005 No. 329

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