ENERGY POLICY PROGRAM

RULES AND SUPPLEMENTAL AGREEMENTS TO INCORPORATE TIGHT GAS AND LOW BTU GAS POLICIES AND MARGINAL GAS FIELDS GUIDELINES

SUBCONTRACT EPP-C2-SC-004
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1. EXECUTIVE SUMMARY

In an effort to increase the production of natural gas in Pakistan, the Government introduced three policies in 2011, 2012 and 2013 targeted at commercializing fields which were deemed to be not commercial had additional incentives not been offered. The subject policies are the Tight Gas (Exploration & Production) Policy 2011, the Low BTU Gas Pricing Policy 2012 and the Marginal/Stranded Gas Fields – Gas Pricing Criteria and Guidelines 2013 (collectively referred to as, "Policies").

It is important to note that policies are mere statements of Government's intention, providing a roadmap of Government's future plans. They are not legally binding unless they are converted into law and regulations or take the appearance of an agreement with a consenting party. More importantly, policies are always at the risk of being changed by a newly elected political party, which comes into Parliament with new ideas on how to reform a sector. Hence, to properly incorporate policy into a binding and more certain form for investors, provisions of a policy have to be either converted into laws and/or contractual terms.

The purpose of this report is to identify the appropriate manner to adequately give the Policies a binding impact. To this end, changes have been suggested to the existing E&P regulatory framework and the agreements the companies have with the President (i.e. the Petroleum Concession Agreements ("PCAs")) in order to adopt the said policies in a meaningful manner.

Initially the Report was to be restricted to changes in the E&P rules and a subsequent report was to propose changes to the PCAs. However, for the sake of efficiency, it was decided to merge the two in order to provide a complete document as one could not be effective without the other.

The changes to certain clauses of the existing PCAs would be carried out by entering into supplemental agreements to the PCAs ("SA") to effectuate the changes in the Policies. Apart from the need to modify certain clauses in the PCAs to accommodate the benefits of the subject policies, the PCAs needed to be changed to permit the adoption of amendments in the E&P Rules regulating the existing PCAs. Generally, most (if not all) PCAs have a clause stating that only the Rules in force at the time of signing will apply. This "stability of law" or "crystallization of law" clause can only be pierced by the mutual consent of all the parties to the PCA to a contractual amendment. It is beyond the scope of this Report to consider the effect of such a clause, suffice to say it ought to be modified for efficient implementation of new rules.

The form of SAs adopting the subject policies could be managed either by having a single SA for adoption of all the Policies or to have an SA for adoption of any one (or more) of the

Policies. The idea of the second option is that companies could pick whichever policy may suit it and not be bound to accept all three in one agreement. The advantage to the companies would be the flexibility to avail of possibly better terms which may be introduced by later policies. The disadvantage would be a risk that the policy terms now available are withdrawn or changed negatively.

As regards changes to the Rules, five options were considered, and the recommended option was to have a distinct chapter in each of the E&P Rules (of 1986, 2001, 2009 and 2013) dealing with the subject policies. This was concluded as the recommended method in order that the original unchanged rules would remain apparent for those companies which did not opt for the subject policies and the changes kept together in a separate chapter to be availed of by companies opting for them. Any concessions granted after the changes were to become law would be subject to the new chapter in the 2013 Rules.

Whilst the concept of encouraging commercializing the three categories of gas fields covered by the subject policies is lauded, the policies themselves have certain gaps which require Government consideration both at this stage in finalizing the SAs and changes to the Rules and in future iterations of the Policies, if any.

2. INTRODUCTION

2.1 The United States Agency for International Development ("**USAID**") under an agreement with the Government of Pakistan is providing support to DGPC through the Energy Policy Program which includes a broad range of consultancy services for DGPC via specialized expertise (long term and short term consultancy) in policy, technical, legal, regulatory and operational aspects of upstream oil and gas sector.

2.2 Advanced Engineering Associates International Inc. of USA ("**AEAI**") was contracted by USAID to manage the said program which, through a competitive bidding process, had selected Petroleum Technology Solutions (Pvt) Ltd ("**Consultants**") to implement a part of the said program.

3. OBJECTIVES, ACTIVITIES AND DELIVERABLES

Objectives

3.1 Certain discoveries of petroleum are not commercially viable to develop. The main reasons being that the reservoir requires exceptional, and costly recovery processes or the gas is of a low heating value or the reservoir is of a small size and/or in a remote area.

3.2 To provide incentives to companies to develop such petroleum reserves which may not be feasible otherwise, the Federal Government of Pakistan issued specific policies and guidelines in 2011, 2012 and 2013, being the Tight Gas (Exploration & Production) Policy 2011, the Low BTU Gas Pricing Policy 2012 and the Marginal/Stranded Gas Fields – Gas Pricing Criteria and Guidelines 2013.

3.3 To effectively implement the Policies the terms thereof need to be included in each of the Petroleum (Exploration and Production) Rules 1986, 2001, 2009 and 2013 (herein the "**E&P Rules**") and the Petroleum Concession Agreements ("**PCAs**").

3.4 The objective of this work area is to identify changes required to be made to the E&P Rules and the PCAs.

Activities

3.5 According to the agreed scope of work, Consultants were required to:

"Propose new Rules or suggest a Way Forward with justification for the Tight Gas Policy, the Low BTU Gas Pricing Policy and the Marginal Gas Fields Guidelines for which Rules have not yet been formulated."

and

"Draft separate Model Supplemental Agreements to incorporate the incentives of the Low BTU Gas Pricing Policy, Tight Gas Policy, Marginal/Stranded Gas Field Guidelines and the Flare Gas Guidelines (if issued) in the existing Petroleum Concession Agreements."

Deliverables

3.6 The deliverables of this exercise were:

"Draft new Rules or recommend a Way Forward with justification (through Section 5 of the 1948 Act, or otherwise) for implementation of policies under the 1986, 2001 and 2009 Rules. Recommend amendment in 2013 Rules, as required, to provide cover to these policies/ guidelines."

and

draft “Model Supplemental Agreements after discussion with the stakeholders and Client.”

4. METHODOLOGY

Certain terms in each of the Policies would require to be incorporated in the Rules and the PCAs. The scope of this Report is to set out the changes required in the E&P Rules and the PCAs, by way of supplemental agreements.

A number of options have been considered to amend the E&P Rules, each of which are listed below:

4.1 Option 1 - Continue prevailing practice i.e. to incorporate the whole of the Policies into the Rules by cross reference.

4.1.1 An effort was made by r.78 in the Pakistan Onshore Petroleum (Exploration and Production) Rules 2013 ("**2013 Rules**") and 2013 Model PCA to incorporate the TGP and LBP in their entireties, by cross-reference.

4.1.2 Clearly the first option to consider is to retain that philosophy already adopted on the basis that it has been considered acceptable by the Government. As the MGFG was not mentioned in either the 2013 Rules or the 2013 Model PCA, it would be necessary to add a reference to MGFG therein.

4.1.3 Such provisions, applicable to the 2013 Rules and 2013 Model PCA could then be replicated in earlier E&P Rules and PCAs.

4.1.4 However, including entire policies into law is a bad way of drafting. Policies are not drafted with the precision one would expect in a law or a contract and hence likely to result in lacunae or conflict and disputes. A couple of immediately apparent concerns are that, pricing, which is a matter typically for policy and/or the PCA, has indirectly been made a part of the 2013 Rules; and the role of the Provincial Government has been enhanced because mentioned in the Policies which have been included, in totality, into the 2013 Rules.

4.1.5 Other issues are likely to arise on implementation. Properly, there should be incorporation of specific relevant terms, as discussed in the other options (below). But, that is not to say that cross referring would not be a possible method, at least for the TGP and LBP.

4.2 Other options

Given that the above is a bad way to incorporate the Policies and that a change would anyway be required to the 2013 Rules in order to include the MGFG, other methods that have been considered are summarised below.

4.3 Option 2 – Establish separate stand-alone rules

4.3.1 An argument could be put forth that a separate set of rules for each of the Policies could be formulated –distinct from the existing E&P Rules.

4.3.2 However, this method is not recommended because stand-alone rules may create a conflict with rules of pre-existing petroleum rights. That is to say, if there was discovery of either tight gas, low btu gas or a marginal/stranded field in a concession granted under one set of E&P Rules, there may be complications on which rules would prevail; this would especially be the case if there was production of other petroleum and facilities were to be shared.

4.3.3 Additionally, just from a drafting perspective, it would increase work for the Government to prepare rules which would require duplicating most of the existing 2013 Rules or cross referring back to whichever E&P Rules regulated a particular concession to a material extent and in both cases having to cater for any overlapping conflicts.

4.4 Option 3 - Distinct chapter in 2013 Rules, cross referred to other E&P Rules.

4.4.1 There could be a distinct chapter in the 2013 Rules dealing with Tight Gas, Low Btu Gas and Marginal Fields and linking that chapter to the earlier E&P Rules in a similar manner to r.80(3) of the 2013 Rules. The chapter would cover those aspects which would be required to amend the rules for the Policies to be accommodated.

4.4.2 However this may cause difficulty and prove troublesome as there would be cross-linking to different E&P Rules of earlier years.

4.4.3 Admittedly, the "Repeal and savings" or "Transitional" rule in each of the E&P Rules do not expressly say that it would exclude subsequent Rules, so an argument could be run that the Rules at the time of signing a PCA apply as well as all subsequent Rules, with priority given to the Rules at the time of signing in the case of a conflict. However, the universal interpretation of the "Repeal and savings" or "Transitional" rules, to date, is that the Rules in force at the time of signing a PCA would apply to the exclusion of earlier or subsequent Rules, to all licences and leases granted pursuant to the PCA. Assuming that is correct, then r.80(3) of the 2013 Rules could not apply in addition to the 1986 Rules or the 2001 Rules, except as discussed next.

4.4.4 The rationale the Consultants give to the said r.80(3) is that it is a *de facto* amendment to the 1986 and 2001 Rules. Thus further changes could be made using that rationale but it is not recommended to expand its applicability as it runs contrary to well established norms in the sector that PCAs are regulated by specific rules then prevailing (possibly as amended). To encourage a trend of having amendments to E&P Rules in other E&P Rules of different vintages (which are not actually meant to apply to particular PCAs) may result in an ambiguity for the future.

4.4.5 Furthermore, making changes in this manner require precise drafting. An indication of potential problems, if not precisely drafted, can be seen with rule 80(2) of the 2013 Rules. It seeks to carve out the continued applicability of the 2009 Rules to the extent of sub-rule (3), suggesting an effort that r.34 and r.35 of the 2013 Rules apply. However, sub-rule (3) does not refer to the 2009 Rules, so it is unclear if the PCAs granted under the 2009 Rules would have the application of r.34 or r.35 of the 2013 Rules.

4.4.6 Attempting to incorporate changes to earlier E&P Rules using the method adopted in r.80(3) of the 2013 Rules does not circumvent the requirement to address the stability of law clause in all/most PCAs. If a view is taken that the effect of the stability of law clause is that laws and rules are fixed in time unless amended or waived (expressly or implicitly) in whole or part, then whether the amendment to the E&P Rules is by a formal amendment in earlier E&P Rules or the said r.80(3), an amendment or waiver of the PCA would be required.

4.5 Option 4 - Amend the individual rules in the1986, 2001 & 2009 Rules separately to incorporate the provisions of the Policies

The individual rules in the 1986, 2001 and 2009 Rules could be amended to accommodate the Policies. This would be the preferred method if the changes were to apply to all companies regulated by such Rules. However the difficulty is that because changes would only apply if opted for by entering into a SA, if any company had not opted it would not be subject to the changed rules. It may then be difficult to see what the relevant rules look like un-amended. That is, especially after a lapse of time rules printed may not show what the amendments were and so amended rules would appear to apply to all, whether opted to adopt the Policies or not.

4.6 Option 5 –Incorporating a distinct chapter covering the Policies in each of the E&P Rules.

Having a distinct chapter, or part, in each of the E&P Rules dealing with Tight Gas, Low BTU Gas and Marginal Fields, is the preferred and recommended method. Each of the E&P Rules would need to be amended via Section 2 of the Regulation of Mines and Oil-Fields and Mineral Development (Government Control) Act, 1948 accordingly.

4.7 Validity of amending the earlier E&P Rules (1986, 2001 and 2009)

Consultants' position is that any assertion that previous E&P Rules have been repealed so cannot be amended is incorrect. The previous E&P Rules are still in operation as each of the "Repeal and saving" and "Transition" rules have expressly stated that the relevant rules "continue to apply" to certain petroleum rights "as if the said rules have not been repealed".

4.8 Mode of incorporating the amendments in the earlier E&P Rules.

The mode of incorporating amendments would be by Section 2 of the Regulation of Mines and Oil-Fields and Mineral Development (Government Control) Act, 1948 ("**Act**").

In addition, Section 5of the Act was considered to exempt/modify certain provisions of the Rules and incorporate the provisions of the Policies for future rights being claimed. However, this could create difficulty and requires an order notified by the Government. Hence, the Consultants recommend expressly amending the existing E&P Rules by Section 2 of the Act and not rely on Section 5 allowing relaxation of rules.

However, a Section 5 notification may be appropriate to regularize the already granted rights under the Polices, which have been done so without an enabling legal and regulatory framework.

4.9 Amendment to the PCAs

As further discussed in Para 5.5, below, companies would need to make changes in the PCAs to avail the incentives as given under the Policies.

4.10 Royalty

4.10.1 Each of the Policies makes reference to a different royalty regime. That is, royalty is payable, under the TGP "as per Petroleum Policy, 2009"; under the LBP "as per Petroleum (Exploration and Production) Policy, 2012" and under the MGFG "as per applicable Petroleum (Exploration and Production) Policy".

4.10.2 There are two compelling, and opposite, views. On the one hand, the amendments should be made to the E&P Rules in accordance with the Policies. On the other hand, no changes should be made to the royalty provisions and the relevant rules shall continue to apply, the merits for which are discussed next.

4.10.3 Firstly, having a modification/incorporating a separate royalty scheme in the E&P Rules could result in two, or more, royalty regimes in a particular concession, resulting in complications (and disputes) as to determining royalty. For example, if there was production from a concession granted under the 1986 Rules and subsequently a discovery of tight gas was to be processed at the same facilities, there would be a need for a detailed mechanism for royalty calculations as the royalty for Tight Gas shall be as per 2009 Rules. Also, as a matter of principle in drafting, parallel regimes should be avoided, due to the risk of unforeseen problems.

Secondly, the objective of the Policies is to incentivize development of certain types of gas discoveries. It diminishes the quality of an incentive if something is given with one hand, but part of it taken back with the other.

Thirdly, it would seem unusual if new concession agreements granted under the 2013 Rules would look back to adopt the royalty terms of the 2009 Policy, in the case of Tight Gas.

4.10.4 As already discussed, Policy is not law, but a statement of intent by the Government at the time. It is not unusual for certain elements of Policy to be adapted or discarded at the time of implementation. On that basis, there would be no legal obstacle to not strictly following the statements regarding royalty in the TGP and LBP. The provision in the MGFG regarding royalty is sufficiently broad to interpret it such that the royalty provision which applies to the concession at the time of grant should apply to Marginal Fields.

4.10.5 The recommendation is to make no changes to the royalty provisions to avoid parallel sets of royalty provisions in the same concession. This would be a particular challenge if there were to be Tight Gas or Low BTU Gas produced from the same lease as other natural gas with a different royalty mechanism. However, if change is considered desirable it should be just to remove the permitted deduction for yearly lease rent. This would be in-line with the 2009 and 2013 Policies and would not need to bring them in line with the more detailed provisions in the 2009 and 2013 Rules. To allow for the latter, provisions have been inserted, in square brackets, as rules 42G and 43F of Schedules E and F, respectively. The square brackets may be removed if the provisions are to be retained.

4.10.6 As changes to the royalty provisions do not fit in particularly well with option 3, it is not recommended to be followed for option 3. However, if so required the suggested wording has been inserted, in square brackets at Schedule B (relating to option 3).

5. WAY FORWARD

Three of the above referred options have been mentioned in this section, with the recommended one at Para 5.3, below.

5.1 Continue prevailing practice

If Government considers its currently adopted method regarding incorporation of the TGP and LBP (discussed in Paras 4.1, above) is acceptable, we would recommend mirroring those changes in the earlier E&P Rules and PCAs. Although, as noted in Para 4.1.4, above, it is not recommended. It would also be necessary to incorporate the MGFG into all the E&P Rules and PCAs, including the 2013 Rules and 2013 Model PCA as the MGFG are not mentioned therein. The required steps for the implementation of this practice are set-out in **Schedule A**, hereto.

5.2 Changes by adopting r.80(3) of the 2013 Rules

Under the 2013 Rules the Government sought to incorporate provisions from the 2013 Rules into earlier Rules, by virtue of r.80(3) of the 2013 Rules. As discussed in Para 4.4.1, above, this could be replicated by incorporating the TGP, LBP and MGFG into a separate chapter of the 2013 Rules and by cross reference export those provisions into the 1986, 2001 and 2009 Rules. This is not a preferred method, as noted in Para 4.4.3, above, however, if it is to be adopted, the suggested changes required to be made are provided in **Schedule B**, hereto.

5.3 Recommended Method for Changes to the E&P Rules

The Consultants preferred recommendations are as noted at Para 4.6, above, for which changes suggested by the Consultants to the E&P Rules are provided at **Schedules C** to **F**, hereto.

5.4 Exclusion of Para 6.1.7 of the Petroleum Exploration & Production Policy 2012

Para 6.1.7 of the Petroleum Exploration & Production Policy 2012 ("**2012 Policy**") says: *"Those E&P companies who opt for conversion to this policy would not be entitled to tight gas policy and/or low BTU policy."* Hence, those companies which sign supplemental agreements for the incorporation of 2012 Policy package terms would not be entitled to sign supplemental agreements to incorporate the TGP and LBP. It is recommended that this paragraph is deleted from the 2012 Policy.

5.5 PCA amendments

5.5.1 As already discussed above, PCAs would need amendments to implement the Policies. The proposed supplemental agreements noted in this Para 5.5 are focussed on the changes required if Option 5 is to be adopted.

5.5.2 The Consultants recommend that the references in the 2013 Model PCA to the TGP and LBP should be deleted and specific changes incorporated. Hence, a revised Model PCA could be issued. It should include the changes proposed to be made in the model supplemental agreement at **Schedule G**.

5.5.3 The changes to be made to those PCAs already signed would be by way of signing supplemental agreements.

5.5.4 The form of supplemental agreement(s) adopting the Policies may be managed in two ways.

(a) The first way is to have a single supplemental agreement for adoption of either all Policies or just the MGFG ("Method I"). The reason why there may be situations where only the MGFG would be adopted would be if parties to a 2013 Model PCA wanted to retain the Tight Gas and Low BTU Gas terms already therein and only adopt the MGFG, or for pre-2012 PCAs where parties opted to convert to the 2012 Policy and hence were precluded from opting for the TGP or LBP (see Para 5.4 above).

(b) The second way is to have separate supplemental agreements for adoption of each Policy individually ("Method II"). Companies could then opt to adopt any one or more particular Policy.

5.5.5 The idea behind Method I would be to encourage companies to opt for all the Policies in one-go and harmonise as many blocks as possible, as soon as possible. Method II would give greater choice to companies to choose which Policy or Policies they adopt, which is viable as there is no time limit for adoption of a Policy.

5.5.6 The necessary supplemental agreements are divided in two sections, depending whether for Method I or Method II.

(a) The proposed model supplemental agreement for Method I are at **Schedules G, H** and **I**. These being, respectively, incorporation of all Policies to 2013-Model PCA, pre-2013-Model PCAs (i.e. 1994, 2001 and 2009 Models) and incorporation of just the MGFG.

(b) The proposed model supplemental agreements for Method II are at **Schedules J – O**. Those at Schedules J, K and L are, respectively, to adopt the TGP, LBP and MGFG for 2013-Model PCAs and those at Schedules M, N and O are respectively, to adopt the TGP, LBP and MGFG for the pre-2013-Model PCAs.

5.5.7 The reason why the said supplemental agreements have been split between those to amend 2013-Model PCAs and those amending pre-2013 (i.e. 1994, 2001 and 2009) Model PCAs is simply for the ease of the end user.

5.6 General

As a general point, to take note of for the future, it would have been preferable had the TGP, LBP, MGFG and the 2012 Policy been prepared as a single document with a single vision; drafted after due consideration and not have had piece-meal policies. Furthermore, there should have been greater analysis as to how to permit existing concessionaires to avail of the policies. The challenges now being faced should be lessons learned for future policies intended to be rolled-out.

SCHEDULE A: USING GOVERNMENT'S EXISTING METHOD

1. This method adopts the pre-existing practice of the Government, that is to incorporate the TGP and LBP as per rule 78 of 2013 Rules and extends it to the preceding E&P Rules. For ease of reference, rule 78 of 2013 Rules states: the *"Tight Gas (Exploration and Production) Policy 2011 and the Low BTU Gas Pricing Policy 2012 shall be deemed incorporated into these rules"*.

2. Additionally, the model PCA of 2013 seeks to incorporate provisions of the TGP and LBP by reference.

3. As already noted, the Consultants are of the view that this is not a preferred method to include, what are essentially, policy statements, but it could work(with inevitable difficulties). To that extent, in this Schedule A the Consultants recommend as follows:

   (a) Insert a rule into each of the 1986, 2001 and 2009 Rules which is similar to rule 78 of the 2013 Rules with the stated caveat that the said rule would only be applicable to those petroleum rights, whose holder subsequently enter into an agreement with the Government for the rule to be incorporated.

   This would be worded as follows, in the 1986 Rules inserted as rule 73A, in the 2001 Rules inserted as rule 74A and in the 2009 Rules inserted as rule 77A:

   > *"The provisions of the Tight Gas (Exploration and Production) Policy, 2011, the Low BTU Gas Pricing Policy, 2012 and Marginal/Stranded Gas Fields – Gas Pricing Guidelines, 2013 shall be deemed incorporated into these rules, as far as possible, and, in the event of any conflict with these rules, the relevant policy or guideline shall prevail, provided, and to the extent that, the holder of a petroleum right enters into an agreement with the Government to that effect."*

   (b) Accordingly, a model Supplemental Agreement ("**SA**") should be prepared for those parties opting-in to the Policies to incorporate into their PCAs those clauses which are in the 2013 Model PCA dealing with the Policies. Due to the provision of "stability of law" clauses in the respective PCAs, the definition of the applicable Rules would have to be amended to incorporate the proposed changes. The SA should be amended to exclude the TGP and LBP, but retain the MGFG, if there has already been an amendment incorporating the 2012 Policy.

   (c) In r.78 of the 2013 Rules, a reference to the MGFG should be added, such that r.78 reads as under:

"Tight Gas (Exploration and Production) Policy 201,the Low BTU Gas Pricing Policy 2012 and Marginal/Stranded Gas Fields – Gas Pricing Guidelines, 2013 shall be deemed incorporated into these rules, as far as possible, and, in the event of any conflict with these rules, the relevant policy shall prevail."

SCHEDULE B: PROPOSED AMENDMENTS TO THE 2013 RULES, ALSO APPLICABLE TO EARLIER RULES

1. For the applicability of this proposed methodology, the 2013 Rules need to be amended as set out in Schedule C, below.

2. A new sub-rule 80(4) shall be inserted, as follows:

   "(4)(a) Notwithstanding any provision to the contrary, rules 45A to 45K shall also apply to petroleum rights as granted or renewed under, and defined in the Pakistan Petroleum (Exploration and Production) Rules, 1986 and Pakistan Petroleum (Exploration and Production) Rules, 2001and Pakistan Onshore Petroleum (Exploration and Production) Rules, 2009.

   (b) Rules 45A to 45K shall be deemed modified to correspond to the applicable rules in the Pakistan Petroleum (Exploration and Production) Rules 1986 and Pakistan Petroleum (Exploration and Production) Rules 2001, Pakistan Onshore Petroleum (Exploration and Production) Rules, 2009, as appropriate.

[3. Only to the extent this Schedule B is adopted, rule 45K, noted in Schedule C, below, shall be made sub-rule (1) and a sub-rule (2) shall be added as follows:

> "(2) For all production of Tight Gas or Low BTU Gas, the provisions of rules 2(xxxiii), 38 to 40 shall apply."][1]

[1] Suggested not to include, as noted in Para 4.10.6, above.

SCHEDULE C: PROPOSED AMENDMENTS TO THE 2013 RULES

1. In this Schedule C, reference to a "**rule**" shall be to a rule in the Pakistan Onshore Petroleum (Exploration and Production) Rules, 2013 ("**2013 Rules**").

2. Insert the following provisions as a new Part IV-A, after rule 45, with the heading:

"PART IV-A – TIGHT GAS, LOW BTU GAS AND MARGINAL FIELDS

45A. **Application of this Part.-** Rules 45B to 45K shall not apply to a PCA entered into before the said rules 45B to 45K were effective, unless the parties thereto have entered into an agreement providing that, and the extent to which, the said rules shall apply.

45B. **Definitions.-** In these rules, unless there is anything repugnant in the subject or context,-

"Certified Consultant" means a consultant engaged by a holder of a petroleum right, at its cost, chosen by competitive bidding from at least four recognized independent consultants, including local and international consultants, taken from a list provided by the Authority, which list may be amended from time to time and which list shall be provided by the Authority to any holder of a petroleum right, on request.[2]

"Certified Laboratory" means a laboratory engaged by a holder of a petroleum right, at its cost, chosen from a list of recognized independent laboratories, including local and international laboratories, approved by the Authority, which list may be amended from time to time and such list shall be provided by the Authority to any holder of a petroleum right, on request.

"Low BTU Gas" means natural gas, which at the wellhead[3]has a gross heating value of 450 BTU/SCF or less[4], as certified by a Certified Laboratory[5].

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[2] The TGP has inconsistencies as to who appoints the Consultant. Para 5(a) says Company with Govt consent, but then para 5(g) says paid for via the Regulator. Also, the MGFG do not state that competitive bidding of the Consultant is required, but bidding has been proposed here as it ensures greater transparency, and for consistency.

[3] The Policy also says that to be "Low BTU Gas" it should not contain, as its primary constituent, methane. That conflicts with the OGRA Ordinance definition of "natural gas" as primarily having methane. Of course, omitting here will not change the definition in the OGRA Ordinance and issues which may be faced as a result of the OGRA definition could remain. What those may be is not clear as the OGRA Ordinance does not have

"Low BTU Gas Field" means a reservoir of Low BTU Gas and so declared under rule 45D.

"Marginal Field" means [a natural gas reservoir that can only be exploited economically if certain additional incentives, as provided in the Marginal/Stranded Gas Fields-Gas Pricing Criteria and Guidelines, 2013 are provided and as certified by a Certified Consultant.][6]

"Tight Gas" means natural gas from a Tight Gas Field.

"Tight Gas Field" means a reservoir:

(a) from which natural gas cannot flow naturally at commercial rates with conventional methods despite having hydrocarbon reserves, as certified by a Certified Consultant;

(b) which requires advanced technologies for its exploitation/production such as high performance perforation, hydraulic fracturing, horizontal wells, multilateral wells and/or infill drilling or combination of these technologies or any new technology acceptable to the Authority;

(c) which has an estimated effective permeability of less than 1.0 milliDarcy, as certified by a Certified Consultant, using Tight Gas Data, based on (i) core data/analysis corrected to reservoir conditions; (ii) well test data/analysis – DST, build up and draw down; (iii) nuclear magnetic resonance method, pressure transient analysis; or (iv) any other method or combination of methods considered acceptable by the Authority; and

(d) so declared under rule 45D.

"Tight Gas Data" means the information to be provided pursuant to rule 45J(2).

45C. **Definition of significant gas discovery.-**

In the definition of "significant gas discovery" at sub-rule 2(xxx), the words "predominantly methane" shall be deleted.[7]

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direct application over the upstream activities. But by deleting here it is an effort to not highlight to OGRA that all Low BTU Gas, by definition, would automatically not fall within its definition of natural gas.

4 Policy says less than 450btu/scf in the definition, but pricing assumes up to and including 450btu.

5 LBP, pg.6 says certificate should be from "at least from the following 3" labs, however herein it has been taken to mean just from one.

6 This definition must be improved. The MGFG is not adequate in defining this.

7 Rationale for this change is that Low BTU Gas could then also, conceivably benefit from the possibility of being a significant gas discovery.

45D. **Tight Gas Field, Low BTU Gas Field and Marginal Field notice and application.-**

(1) When submitting a notice for declaration of commercial discovery and applying for a lease under rule 26 and on granting a lease under rule 30, the notice, application and grant shall state if it is as a Tight Gas Field, Low BTU Gas Field or a Marginal Field (and in no event more than one such classification).

(2) Along with a notice for a declaration of a commercial discovery under rule 26(1) of (i) a Tight Gas Field or a Marginal Field a reserves certification by a Certified Consultant will be provided or (ii) a Low BTU Gas Field certification from a Certified Laboratory shall be provided.

(3) If a discovery of petroleum is refused by the Authority as a commercial discovery of a Tight Gas Field or Low BTU Gas Field or Marginal Field, it does not preclude another notice being given as to it being a commercial discovery under any other classification. Notwithstanding sub-rule 22(7), the licence shall be extended for three months after any such refusal, to the extent of such discovery area, provided there may be only one such extension.

45E. **Retention of discovery of Low BTU Gas or a Marginal Field.-**

(1) In the case of a discovery which is Low BTU Gas or a Marginal Field, the Authority may renew the licence, to the extent of the discovery area, by up to five years[8] in addition to any period of appraisal provided under rule 23, to determine options for the development and marketing of such natural gas.[9]

(2) If applicable, the Authority may, if the circumstances justify it, apply the provisions of rule 25, in addition to sub-rule 45E(1).[10]

(3) Rule 25(1), the final sentence shall be deemed deleted, which reads: "In case of a discovery of Low BTU Gas for which outlet is not readily available or gas infrastructure cannot be utilized, the Federal Government can consider extension in the aforementioned retention period on a case to case basis."

45F. **Lease period in relation to a Tight Gas Field, Low BTU Gas Field and Marginal Fields.-**

(1) Notwithstanding rule 34, the Authority shall, on being satisfied of the commercial discovery of the reservoir hosting Tight Gas, grant a lease in respect

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[8] MGFG and LBP both say "minimum of 5 years, but "up to" 5 years appears more appropriate.

[9] There is some debate as to whether this 5 years would be before or after the DoC. Our position is it should be before. The LBP and MGFG are open to interpretation as the initial extra 5 years could be either 5 years "from the date of approval of the development plan" or it could be an extension of 5 years to determine development options and marketing of gas after the date of approval of the development plan.

[10] The Policies are silent on this. It is recommended that the Federal Government have the discretionary power to extend a licence by up to a further 5 years for Zones 1 or 2 on the basis that it would be incrementally that much harder to commercialise a remote field.

of such discovery area, for the period for which application has been made and supported by relevant technical and other information but shall not exceed thirty years. In the event such lease is initially granted for a period less than thirty years, the same may be extended for the remaining period provided commercial production continues.

(2) Upon application from a holder of a lease in respect of a Tight Gas Field, the Authority may renew such lease for a period, not exceeding ten years, if commercial production is continuing at the time of the application, subject to the following:-

(a) the request for a renewal along with revised development plan is submitted to the Authority not less than one year prior to expiry of initial term; and

(b) the area is producing on a regular commercial basis on the date of the request.

(3) Notwithstanding the limit of duration of a lease under rule 34, in the event of a lease being granted over a Low BTU Gas Field or a Marginal Field, the lease period shall be extended by the Development Retention Period, as defined in sub-rule (4). Such extension shall be recorded by way of a lease amendment granted promptly following the end of the Development Retention Period.

(4) For the purposes of sub-rule (3), "Development Retention Period" means up to five years, which the Authority may allow, on the provision of justification, in order to facilitate the holder of a lease over a Low BTU Gas Field or Marginal Field to implement an approved development plan (or any addendum thereto), provided such extended period shall automatically cease on the commencement of commercial production from such lease, or relevant part of such lease. The said limit of five years may be extended to up to 10 years in the event the holder of a lease had not availed of the retention period permitted under rule 45E[11].

45G. **Suspension of production of Tight Gas.-**

At the end of sub-rule 45(1) the following shall be deemed inserted:

"In the case of a lease over a Tight Gas Field,

(a) such lease shall not be so revoked unless suspension of production has exceeded a cumulative period of one year during the term of the lease;

[11] The latter option is to facilitate Low BTU and MG fields which may wish to sign with IPPs as they may need to have leases first signed and then look a longer period to commercialise.

(b) production shall be deemed to have been suspended for a full month if production is suspended for more than 15 days in that month;

(c) with respect to sub-rule (a) and (b), any period of suspension on account of (i) force majeure; or (ii)planned plant shutdown for maintenance shall be excluded; and

(d) the Authority may grant further extensions, on case to case basis, subject to justifications acceptable to the Authority."

45H. **Tight Gas or Low BTU Gas discovery in a lease area.-**

(a) In the event a new commercial discovery as referred to in sub-rule 65(3) is a discovery of Tight Gas, either, the term of the existing lease may be extended by up to thirty years to accommodate the discovery of Tight Gas, which may be extended pursuant to rule 45F(1), or, subject to justifying to the Authority, a separate lease shall be granted. With an application for an extension or a new lease, either an addendum to an existing development plan or a development plan, as appropriate, shall be provided.

(b) In the event a new commercial discovery as referred to in sub-rule 65(3) is a discovery of Low BTU Gas the term of the existing lease may be extended by up to the period provided in rules 34 and 45F(3) or, subject to justifying to the Authority, a separate lease shall be granted.[12]

(c) In the event of a lease being extended to include a Low BTU Gas or Tight Gas discovery, as provided in sub-rule (a) or (b), upon expiry of the original term of the lease, the area of the lease which does not comprise the discovery area of Tight Gas or Low BTU Gas, shall be relinquished, except to the extent, to the Authority's satisfaction, it would impede the production operations of the Tight Gas or Low BTU Gas wells, as appropriate. The remaining area could be renewed if a Tight Gas Field pursuant to rule 45F(2) or if a Low BTU Field or Marginal Field pursuant to rule 34(2).

(d) If a lease area is extended to accommodate a discovery of Tight Gas or Low BTU Gas, rent shall be payable under the terms of such amended lease; whereas if a separate lease is granted rent shall be payable on the subsequently granted lease only to the extent of that the area which, when projected vertically at the surface, is beyond the area of the original lease.

45I. **Mixed well production of Tight Gas and other natural gas.-**

[12] This is not provided for in the LBP, but the principle of the TGP has been followed.

(1) In the event a well is capable of producing both Tight Gas as well as other natural gas, such well shall be completed in one interval so as not to allow commingling, unless the process set out in sub-rule (2) is followed.

(2) Tight Gas and other natural gas may be produced from the same well, provided it is through dual completion or other internationally acceptable method approved by the Authority for which approval the Authority may require a report from a Certified Consultant. The holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for Tight Gas and other natural gas or as otherwise reasonably required by the Authority.

(3) In case of joint production from multiple wells of Tight Gas and other natural gas using the same surface infrastructure, the holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for each well producing Tight Gas and other natural gas respectively or as otherwise reasonably required by the Authority.

(4) In relation to Tight Gas, produced with or without other natural gas, the holder of the petroleum right shall put in place mechanism for observation of the wellhead gas flow rates by the representative(s) of the Authority, should the Authority so request.

45J. **Data provided to Certified Consultants.-**

(1) The holder of a petroleum right shall ensure data is promptly transmitted electronically to the Authority and, when engaged, the Certified Consultant.

(2) To facilitate the Certified Consultant in its analysis to determine whether natural gas discovered is Tight Gas the holder of a petroleum right shall provide to the Certified Consultant as much data and supporting material as is reasonably possible to generate reliable reports with a high degree of accuracy, including but not limited to, logs, cores, ditch cutting, seismic, VSP.

(3) The submission of incorrect data or material to a Certified Consultant or Authority, with the intention of distorting the results to determine a reservoir as a Tight Gas Field when it otherwise would not be shall attract a fine of up to, the Pakistan Rupee equivalent of, US$5 million. In the event of any subsequent wrongful submission in the same petroleum right with such an intention, the petroleum right as against the petroleum right holder or holders which submitted the distorted data or material shall be revoked. Any such fine will be payable by the party providing the data or material and any party complicit in intending to distort the results shall be also fined in a similar manner. Any such

fine shall neither be recoverable from any other holder of a petroleum right, nor be a tax deductible expense, and shall be without prejudice to any other legal penalties or remedies.

45K. The provisions in rule 78 shall be deleted and replaced with the word "Deleted"."

SCHEDULE D: PROPOSED AMENDMENTS TO THE 2009 RULES

1. In this Schedule D, reference to a "**rule**" shall be to a rule in the Pakistan Onshore Petroleum (Exploration and Production) Rules, 2009 ("**2009 Rules**").

2. Insert the following provisions as a new Part IV-A, after rule 45, with the heading:

   "PART IV-A – TIGHT GAS, LOW BTU GAS AND MARGINAL FIELDS

   45A. **Application of this Part.-** Rules 45B to 45Jshall not apply to a PCA entered into before the said rules 45B to 45J were effective, unless the parties thereto have entered into an agreement providing that, and the extent to which, the said rules shall apply.

   45B. **Definitions.-** In these rules, unless there is anything repugnant in the subject or context,-

   "Certified Consultant" means a consultant engaged by a holder of a petroleum right, at its cost, chosen by competitive bidding from at least four recognized independent consultants, including local and international consultants, taken from a list provided by the Authority, which list may be amended from time to time and which list shall be provided by the Authority to any holder of a petroleum right, on request.[13]

   "Certified Laboratory" means a laboratory engaged by a holder of a petroleum right, at its cost, chosen from a list of recognized independent laboratories, including local and international laboratories, approved by the Authority, which list may be amended from time to time and such list shall be provided by the Authority to any holder of a petroleum right, on request.

   "Low BTU Gas" means natural gas, which at the wellhead[14]has a gross heating value of 450 BTU/SCF or less[15], as certified by a Certified Laboratory[16].

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[13] The TGP has inconsistencies as to who appoints the Consultant. Para 5(a) says Company with Govt consent, but then para 5(g) says paid for via the Regulator. Also, the MGFG do not state that competitive bidding of the Consultant is required, but bidding has been proposed here as it ensures greater transparency, and for consistency.

[14] The Policy also says that to be "Low BTU Gas" it should not contain, as its primary constituent, methane. That conflicts with the OGRA Ordinance definition of "natural gas" as primarily having methane. Of course, omitting here will not change the definition in the OGRA Ordinance and issues which may be faced as a result of the OGRA definition could remain. What those may be is not clear as the OGRA Ordinance does not have

"Low BTU Gas Field" means a reservoir of Low BTU Gas and so declared under rule 45D.

"Marginal Field" means [a natural gas reservoir that can only be exploited economically if certain additional incentives, as provided in the Marginal/Stranded Gas Fields-Gas Pricing Criteria and Guidelines, 2013 are provided and as certified by a Certified Consultant.][17]

"Tight Gas" means natural gas from a Tight Gas Field.

"Tight Gas Field" means a reservoir:

(a) from which natural gas cannot flow naturally at commercial rates with conventional methods despite having hydrocarbon reserves, as certified by a Certified Consultant;

(b) which requires advanced technologies for its exploitation/production such as high performance perforation, hydraulic fracturing, horizontal wells, multilateral wells and/or infill drilling or combination of these technologies or any new technology acceptable to the Authority;

(c) which has an estimated effective permeability of less than 1.0 milliDarcy, as certified by a Certified Consultant, using Tight Gas Data, based on (i) core data/analysis corrected to reservoir conditions; (ii) well test data/analysis – DST, build up and draw down; (iii) nuclear magnetic resonance method, pressure transient analysis; or (iv) any other method or combination of methods considered acceptable by the Authority; and

(d) so declared under rule 45D.

"Tight Gas Data" means the information to be provided pursuant to rule 45J(2).

45C. **Definition of significant gas discovery.-**

In the definition of "significant gas discovery" at sub-rule 2(xxii), the words "predominantly methane" shall be deleted.[18]

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direct application over the upstream activities. But by deleting here it is an effort to not highlight to OGRA that all Low BTU Gas, by definition, would automatically not fall within its definition of natural gas.

[15] Policy says less than 450btu/scf in the definition, but pricing assumes up to and including 450btu.

[16] LBP, pg.6 says certificate should be from "at least from the following 3" labs, however herein it has been taken to mean just from one.

[17] This definition must be improved. The MGFG is not adequate in defining this.

[18] Rationale for this change is that Low BTU Gas could then also, conceivably benefit from the possibility of being a significant gas discovery.

45D. **Tight Gas Field, Low BTU Gas Field and Marginal Field notice and application.-**

(1) When submitting a notice for declaration of commercial discovery and applying for a lease under rule 26 and on granting a lease under rule 30, the notice, application and grant shall state if it is as a Tight Gas Field, Low BTU Gas Field or a Marginal Field (and in no event more than one such classification).

(2) Along with a notice for a declaration of a commercial discovery under rule 26(1) of (i) a Tight Gas Field, or a Marginal Field a reserves certification by a Certified Consultant will be provided or (ii) a Low BTU Gas Field certification from a Certified Laboratory shall be provided.

(3) If a discovery of petroleum is refused by the Authority as a commercial discovery of a Tight Gas Field or Low BTU Gas Field or Marginal Field, it does not preclude another notice being given as to it being a commercial discovery under any other classification. Notwithstanding sub-rule 22(7), the licence shall be extended for three months after any such refusal, to the extent of such discovery area, provided there may be only one such extension.

45E. **Retention of discovery of Low BTU Gas or a Marginal Field.-**

(1) In the case of a discovery which is Low BTU Gas or a Marginal Field, the Authority may renew the licence, to the extent of the discovery area, by up to five years[19] in addition to any period of appraisal provided under rule 23, to determine options for the development and marketing of such natural gas.[20]

(2) If applicable, the Authority may, if the circumstances justify it, apply the provisions of rule 25, in addition to sub-rule 45E(1).[21]

45F. **Lease period in relation to a Tight Gas, Low BTU Gas and Marginal Fields.-**

(1) Notwithstanding rule 34, the Authority shall, on being satisfied of the commercial discovery of the reservoir hosting Tight Gas, grant a lease in respect of such discovery area, for the period for which application has been made and supported by relevant technical and other information but shall not exceed thirty years. In the event such lease is initially granted for a period less than thirty

[19] MGFG and LBP both say "minimum of 5 years, but "up to" 5 years appears more appropriate.

[20] There is some debate as to whether this 5 years would be before or after the DoC. Our position is it should be before. The LBP and MGFG are open to interpretation as the initial extra 5 years could be either 5 years "from the date of approval of the development plan" or it could be an extension of 5 years to determine development options and marketing of gas after the date of approval of the development plan.

[21] The Policies are silent on this. It is recommended that the Federal Government have the discretionary power to extend a licence by up to a further 5 years for Zones 1 or 2 on the basis that it would be incrementally that much harder to commercialise a remote field.

years, the same may be extended for the remaining period provided commercial production continues.

(2) Upon application from a holder of a lease in respect of a Tight Gas Field, the Authority may renew such lease for a period, not exceeding ten years, if commercial production is continuing at the time of the application, subject to the following:-

(a) the request for a renewal along with revised development plan is submitted to the Authority not less than one years prior to expiry of initial term; and

(b) the area is producing on a regular commercial basis on the date of the request.

(3) Notwithstanding the limit of duration of a lease under rule 34, in the event of a lease being granted over a Low BTU Gas Field or a Marginal Field, the lease period shall be extended by the Development Retention Period, as defined in sub-rule (4). Such extension shall be recorded by way of a lease amendment granted promptly following the end of the Development Retention Period.

(4) For the purposes of sub-rule (3), "Development Retention Period" means up to five years, which the Authority may allow, on the provision of justification, in order to facilitate the holder of a lease over a Low BTU Gas Field or Marginal Field to implement an approved development plan (or any addendum thereto), provided such extended period automatically cease on, the commencement of commercial production from such lease, or relevant part of such lease. The said limit of five years may be extended to up to 10 years in the event the holder of a lease had not availed of the retention period permitted under rule 45E[22].

45G. **Suspension of production of Tight Gas.-**

At the end of sub-rule 45(1) the following shall be deemed inserted:

"In the case of a lease over a Tight Gas Field,

(a) such lease shall not be so revoked unless suspension of production has exceeded a cumulative period of one year during the term of the lease;

(b) production shall be deemed to have been suspended for a full month if production is suspended for more than 15 days in that month;

[22] The latter option is to facilitate Low BTU and MG fields which may wish to sign with IPPs as they may need to have leases first signed and then look a longer period to commercialise.

(c) with respect to sub-rule (a) and (b), any period of suspension on account of (i) force majeure; or (ii)planned plant shutdown for maintenance shall be excluded; and

(d) the Authority may grant further extensions, on case to case basis, subject to justifications acceptable to the Authority."

45H. **Tight Gas or Low BTU Gas discovery in a lease area.-**

(a) In the event a new commercial discovery as referred to in sub-rule 65(3) is a discovery of Tight Gas, either, the term of the existing lease may be extended by up to thirty years to accommodate the discovery of Tight Gas, which may be extended pursuant to rule 45F(1), or, subject to justifying to the Authority, a separate lease shall be granted. With an application for an extension or a new lease, either an addendum to an existing development plan or a development plan, as appropriate, shall be provided.

(b) In the event a new commercial discovery as referred to in sub-rule 65(3) is a discovery of Low BTU Gas the term of the existing lease may be extended by up to the period provided in rules 34 and 45F(3) or, subject to justifying to the Authority, a separate lease shall be granted.[23]

(c) In the event of a lease being extended to include a Low BTU Gas or Tight Gas discovery, as provided in sub-rule (a) or (b), upon expiry of the original term of the lease, the area of the lease which does not comprise the discovery area of Tight Gas or Low BTU Gas, shall be relinquished, except to the extent, to the Authority's satisfaction, it would impede the production operations of the Tight Gas or Low BTU Gas wells, as appropriate. The remaining area could be renewed if a Tight Gas Field pursuant to rule 45F(2) or if a Low BTU Field or Marginal Field pursuant to rule 34(2).

(d) If a lease area is extended to accommodate a discovery of Tight Gas or Low BTU Gas, rent shall be payable under the terms of such amended lease; whereas if a separate lease is granted rent shall be payable on the subsequently granted lease only to the extent of that the area which, when projected vertically at the surface, is beyond the area of the original lease.

45I. **Mixed well production of Tight Gas and other natural gas.-**

(1) In the event a well is capable of producing both Tight Gas as well as other natural gas, such well shall be completed in one interval so as not to allow commingling, unless the process set out in sub-rule (2) is followed.

[23] This is not provided for in the LBP, but the principle of the TGP has been followed.

(2) Tight Gas and other natural gas may be produced from the same well, provided it is through dual completion or other internationally acceptable method approved by the Authority for which approval the Authority may require a report from a Certified Consultant. The holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for each well producing Tight Gas and other natural gas, respectively or as otherwise reasonably required by the Authority.

(3) In case of joint production from multiple wells of Tight Gas and other natural gas using the same surface infrastructure, the holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for each well producing Tight Gas and other natural gas, respectively or as otherwise reasonably required by the Authority.

(4) In relation to Tight Gas, produced with or without other natural gas, the holder of the petroleum right shall put in place mechanism for observation of the wellhead gas flow rates by the representative(s) of the Authority, should the Authority so request.

45J. **Data provided to Certified Consultants.-**

(1) The holder of a petroleum right shall ensure data is promptly transmitted electronically to the Authority and, when engaged, the Certified Consultant.

(2) To facilitate the Certified Consultant in its analysis to determine whether natural gas discovered is Tight Gas the holder of a petroleum right shall provide to the Certified Consultant as much data and supporting material as is reasonably possible to generate reliable reports with a high degree of accuracy, including but not limited to, logs, cores, ditch cutting, seismic, VSP.

(3) The submission of incorrect data or material to a Certified Consultant or Authority, with the intention of distorting the results to determine a reservoir as a Tight Gas Field when it otherwise would not be shall attract a fine of up to, the Pakistan Rupee equivalent of, US$5 million. In the event of any subsequent wrongful submission in the same petroleum right with such an intention, the petroleum right as against the petroleum right holder or holders which submitted the distorted data or material shall be revoked. Any such fine will be payable by the party providing the data or material and any party complicit in intending to distort the results shall be also fined in a similar manner. Any such fine shall neither be recoverable from any other holder of a petroleum right, nor be a tax deductible expense, and shall be without prejudice to any other legal penalties or remedies.

SCHEDULE E: PROPOSED AMENDMENTS TO THE 2001 RULES

1. In this Schedule E, reference to a "**rule**" shall be to a rule in the Pakistan Petroleum (Exploration and Production) Rules, 2001 ("**2001 Rules**").

2. Insert the following provisions as a new Part IV-A, after rule 42, with the heading:

"PART IV-A – TIGHT GAS, LOW BTU GAS AND MARGINAL FIELDS

42A. **Application of this Part.-** Rules 42B to 42Kshall not apply to a PCA entered into before the said rules 42B to 42K were effective, unless the parties thereto have entered into an agreement providing that, and the extent to which, the said rules shall apply.

42B. **Definitions.-** In these rules, unless there is anything repugnant in the subject or context,-

"Certified Consultant" means a consultant engaged by a holder of a petroleum right, at its cost, chosen by competitive bidding from at least four recognized independent consultants, including local and international consultants, taken from a list provided by the DGPC, which list may be amended from time to time and which list shall be provided by the DGPC to any holder of a petroleum right, on request.[24]

"Certified Laboratory" means a laboratory engaged by a holder of a petroleum right, at its cost, chosen from a list of recognized independent laboratories, including local and international laboratories, approved by the DGPC, which list may be amended from time to time and such list shall be provided by the DGPC to any holder of a petroleum right, on request.

"Low BTU Gas" means natural gas, which at the wellhead[25]has a gross heating value of 450 BTU/SCF or less[26], as certified by a Certified Laboratory[27].

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[24] The TGP has inconsistencies as to who appoints the Consultant. Para 5(a) says Company with Govt consent, but then para 5(g) says paid for via the Regulator. Also, the MGFG do not state that competitive bidding of the Consultant is required, but bidding has been proposed here as it ensures greater transparency, and for consistency.

[25] The Policy also says that to be "Low BTU Gas" it should not contain, as its primary constituent, methane. That conflicts with the OGRA Ordinance definition of "natural gas" as primarily having methane. Of course, omitting here will not change the definition in the OGRA Ordinance and issues which may be faced as a result of the OGRA definition could remain. What those may be is not clear as the OGRA Ordinance does not have

"Low BTU Gas Field" means a reservoir of Low BTU Gas and so declared under rule 42D.

"Marginal Field" means [a natural gas reservoir that can only be exploited economically if certain additional incentives, as provided in the Marginal/Stranded Gas Fields-Gas Pricing Criteria and Guidelines, 2013 are provided and as certified by a Certified Consultant.][28]

"Tight Gas" means natural gas from a Tight Gas Field.

"Tight Gas Field" means a reservoir:

(a) from which natural gas cannot flow naturally at commercial rates with conventional methods despite having hydrocarbon reserves, as certified by a Certified Consultant;

(b) which requires advanced technologies for its exploitation/production such as high performance perforation, hydraulic fracturing, horizontal wells, multilateral wells and/or infill drilling or combination of these technologies or any new technology acceptable to the DGPC;

(c) which has an estimated effective permeability of less than 1.0 milliDarcy, as certified by a Certified Consultant, using Tight Gas Data, based on (i) core data/analysis corrected to reservoir conditions; (ii) well test data/analysis – DST, build up and draw down; (iii) nuclear magnetic resonance method, pressure transient analysis; or (iv) any other method or combination of methods considered acceptable by the DGPC; and

(d) so declared under rule 42D.

"Tight Gas Data" means the information to be provided pursuant to rule 42K(2).

42C. **Definition of significant gas discovery.-**

In the definition of "significant gas discovery" at sub-rule 2(p), the words "predominantly methane" shall be deleted.[29]

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direct application over the upstream activities. But by deleting here it is an effort to not highlight to OGRA that all Low BTU Gas, by definition, would automatically not fall within its definition of natural gas.

[26] Policy says less than 450btu/scf in the definition, but pricing assumes up to and including 450btu.

[27] LBP, pg.6 says certificate should be from "at least from the following 3" labs, however herein it has been taken to mean just from one.

[28] This definition must be improved. The MGFG is not adequate in defining this.

[29] Rationale for this change is that Low BTU Gas could then also, conceivably benefit from the possibility of being a significant gas discovery.

42D. **Tight Gas Field, Low BTU Gas Field and Marginal Field notice and application.-**

(1) When submitting a notice for declaration of commercial discovery and applying for a lease under rule 24 and on granting a lease under rule 28, the notice, application and grant shall state if it is as a Tight Gas Field, Low BTU Gas Field or a Marginal Field (and in no event more than one such classification).

(2) Along with a notice for a declaration of a commercial discovery under rule 24(1), of (i) a Tight Gas Field, or a Marginal Field a reserves certification by a Certified Consultant will be provided or (ii) a Low BTU Gas Field certification from a Certified Laboratory shall be provided.

(3) If a discovery of petroleum is refused by the DGPC as a commercial discovery of a Tight Gas Field or Low BTU Gas Field or Marginal Field, it does not preclude another notice being given as to it being a commercial discovery under any other classification. The licence shall be extended for three months after any such refusal, to the extent of such discovery area, provided there may be only one such extension.

42E. **Retention of discovery of Low BTU Gas or a Marginal Field.-**

(1) In the case of a discovery which is Low BTU Gas or a Marginal Field, the DGPC may renew the licence, to the extent of the discovery area, by up to five years[30] in addition to any period of appraisal provided under rule 22, to determine options for the development and marketing of such natural gas.[31]

(2) If applicable, the DGPC may, if the circumstances justify it, apply the provisions of rule 23, in addition to sub-rule 42E(1).[32]

42F. **Lease period in relation to a Tight Gas Field, Low BTU Gas Field and Marginal Fields.-**

(1) Notwithstanding rule 32, the DGPC shall, on being satisfied of the commercial discovery of the reservoir hosting Tight Gas, grant a lease in respect of such discovery area, for the period for which application has been made and supported by relevant technical and other information but shall not exceed thirty years. In the event such lease is initially granted for a period less than thirty

[30] MGFG and LBP both say "minimum of 5 years, but "up to" 5 years appears more appropriate.

[31] There is some debate as to whether this 5 years would be before or after the DoC. Our position is it should be before. The LBP and MGFG are open to interpretation as the initial extra 5 years could be either 5 years "from the date of approval of the development plan" or it could be an extension of 5 years to determine development options and marketing of gas after the date of approval of the development plan.

[32] The Policies are silent on this. It is recommended that the Federal Government have the discretionary power to extend a license by up to a further 5 years for Zones 1 or 2 on the basis that it would be incrementally that much harder to commercialize a remote field.

years, the same may be extended for the remaining period provided commercial production continues.

(2) Upon application from a holder of a lease in respect of a Tight Gas Field, the DGPC may renew such lease for a period, not exceeding ten years, if commercial production is continuing at the time of the application, subject to the following:-

(a) the request for a renewal along with revised development plan is submitted to the DGPC not less than one years prior to expiry of initial term; and

(b) the area is producing on a regular commercial basis on the date of the request.

(3) Notwithstanding the limit of duration of a lease under rule 32, in the event of a lease being granted over a Low BTU Gas Field or a Marginal Field, the lease period shall be extended by the Development Retention Period, as defined in sub-rule (4). Such extension shall be recorded by way of a lease amendment granted promptly following the end of the Development Retention Period.

(4) For the purposes of sub-rule (3), "Development Retention Period" means up to five years which the DGPC may allow, on the provision of justification, in order to facilitate the holder of a lease over a Low BTU Gas Field or Marginal Field to implement an approved development plan (or any addendum thereto), provided such extended period shall automatically cease on, the commencement of commercial production from such lease, or relevant part of such lease. The said limit of five years may be extended to up to 10 years in the event the holder of a lease had not availed of the retention period permitted under rule 42E[33].

[42G. **Royalty.-**

The following shall be deemed inserted after rule 35(6):

"(6A) Notwithstanding sub-rule (6), from the amount of royalties payable from production of Tight Gas or Low BTU Gas, in respect of any one year of the term of a lease, there shall be no deduction of any expenditure except allowed transportation cost. In the event of Tight Gas or Low BTU Gas being produced

[33] The latter option is to facilitate Low BTU and MG fields which may wish to sign with IPPs as they may need to have leases first signed and then look a longer period to commercialize.

from the same lease with other natural gas any expenditure (including lease rent, if appropriate) would be equitably apportioned as agreed with the DGPC."][34]

42H. **Suspension of production of Tight Gas.-**

At the end of sub-rule 42(1) the following shall be deemed inserted:

"In the case of a lease over a Tight Gas Field,

(a) such lease shall not be so revoked unless suspension of production has exceeded a cumulative period of one year during the term of the lease;

(b) production shall be deemed to have been suspended for a full month if production is suspended for more than 15 days in that month;

(c) with respect to sub-rule (a) and (b), any period of suspension on account of (i) force majeure; or (ii)planned plant shutdown for maintenance shall be excluded; and

(d) the DGPC may grant further extensions, on case to case basis, subject to justifications acceptable to it."

42I. **Tight Gas or Low BTU Gas discovery in a lease area.-**

(a) In the event a new commercial discovery as referred to in sub-rule 62(3) is a discovery of Tight Gas, either, the term of the existing lease may be extended by up to thirty years to accommodate the discovery of Tight Gas, which may be extended pursuant to rule 42F(1), or, subject to justifying to the DGPC, a separate lease shall be granted. With an application for an extension or a new lease, either an addendum to an existing development plan or a development plan, as appropriate, shall be provided.

(b) In the event a new commercial discovery as referred to in sub-rule 62(3) is a discovery of Low BTU Gas the term of the existing lease may be extended by up to the period provided in rules 32 and 42F(3) or, subject to justifying to the DGPC, a separate lease shall be granted.[35]

(c) In the event of a lease being extended to include a Low BTU Gas or Tight Gas discovery, as provided in sub-rule (a) or (b), upon expiry of the original term of the lease, the area of the lease which does not comprise the discovery area of Tight Gas or Low BTU Gas, shall be relinquished, except to the extent, to the

[34]Delete if opt not to make any changes to royalty, and adjust subsequent numbering accordingly. However, recommendation is that there should be no parallel royalty regime. See para 4.10.5 of the Report.
[35] This is not provided for in the LBP, but the principle of the TGP has been followed.

DGPC's satisfaction, it would impede the production operations of the Tight Gas or Low BTU Gas wells, as appropriate. The remaining area could be renewed if a Tight Gas Field pursuant to rule 42F(2) or if a Low BTU Field or Marginal Field pursuant to rule 32.

(d) If a lease area is extended to accommodate a discovery of Tight Gas or Low BTU Gas, rent shall be payable under the terms of such amended lease; whereas if a separate lease is granted rent shall be payable on the subsequently granted lease only to the extent of that the area which, when projected vertically at the surface, is beyond the area of the original lease.

42J. **Mixed well production of Tight Gas and other natural gas.-**

(1) In the event a well is capable of producing both Tight Gas as well as other natural gas, such well shall be completed in one interval so as not to allow commingling, unless the process set out in sub-rule (2) is followed.

(2) Tight Gas and other natural gas may be produced from the same well, provided it is through dual completion or other internationally acceptable method approved by the DGPC for which approval the DGPC may require a report from a Certified Consultant. The holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for Tight Gas and other natural gas or as otherwise reasonably required by the DGPC.

(3) In case of joint production from multiple wells of Tight Gas and other natural gas using the same surface infrastructure, the holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for each well producing Tight Gas and other natural gas, respectively, or as otherwise reasonably required by the DGPC.

(4) In relation to Tight Gas, produced with or without other natural gas, the holder of the petroleum right shall put in place mechanism for observation of the wellhead gas flow rates by the representative(s) of the DGPC, should the DGPC so request.

42K. **Data provided to Certified Consultants.-**

(1) The holder of a petroleum right shall ensure data is promptly transmitted electronically to the Authority and, when engaged, the Certified Consultant.

(2) To facilitate the Certified Consultant in its analysis to determine whether natural gas discovered is Tight Gas the holder of a petroleum right shall provide

to the Certified Consultant as much data and supporting material as is reasonably possible to generate reliable reports with a high degree of accuracy, including but not limited to, logs, cores, ditch cutting, seismic, VSP.

(3) The submission of incorrect data or material to a Certified Consultant or Authority, with the intention of distorting the results to determine a reservoir as a Tight Gas Field when it otherwise would not be shall attract a fine of up to, the Pakistan Rupee equivalent of, US$5 million. In the event of any subsequent wrongful submission in the same petroleum right with such an intention, the petroleum right as against the petroleum right holder or holders which submitted the distorted data or material shall be revoked. Any such fine will be payable by the party providing the data or material and any party complicit in intending to distort the results shall be also fined in a similar manner. Any such fine shall neither be recoverable from any other holder of a petroleum right, nor be a tax deductible expense, and shall be without prejudice to any other legal penalties or remedies.

SCHEDULE F: PROPOSED AMENDMENTS TO THE 1986 RULES

1. In this Schedule F, reference to a "**rule**" shall be to a rule in the Pakistan Petroleum (Exploration and Production) Rules, 1986 ("**1986 Rules**").

2. Insert the following provisions as a new Part IV-A, after rule 43, with the heading:

"PART IV-A – TIGHT GAS, LOW BTU GAS AND MARGINAL FIELD GAS

43A. **Application of this Part.-** Rules 43B to43J shall not apply to a PCA entered into before the said rules 43B to 43J were effective, unless the parties thereto have entered into an agreement providing that, and the extent to which, the said rules shall apply.

43B. **Definitions.-** In these rules, unless there is anything repugnant in the subject or context,-

"Certified Consultant" means a consultant engaged by a holder of a petroleum right, at its cost, chosen by competitive bidding from at least four recognized independent consultants, including local and international consultants, taken from a list provided by the Director General, Petroleum Concessions, which list may be amended from time to time and which list shall be provided by the Director General, Petroleum Concessions to any holder of a petroleum right, on request.[36]

"Certified Laboratory" means a laboratory engaged by a holder of a petroleum right, at its cost, chosen from a list of recognized independent laboratories, including local and international laboratories, approved by the Director General, Petroleum Concessions, which list may be amended from time to time and such list shall be provided by the Director General, Petroleum Concessions to any holder of a petroleum right, on request.

"Low BTU Gas" means natural gas, which at the wellhead[37] has a gross heating value of 450 BTU/SCF or less[38], as certified by a Certified Laboratory[39].

[36] The TGP has inconsistencies as to who appoints the Consultant. Para 5(a) says Company with Govt. consent, but then para 5(g) says paid for via the Regulator. Also, the MGFG do not state that competitive bidding of the Consultant is required, but bidding has been proposed here as it ensures greater transparency, and for consistency.
[37] The Policy also says that to be "Low BTU Gas" it should not contain, as its primary constituent, methane. That conflicts with the OGRA Ordinance definition of "natural gas" as primarily having methane. Of course,

"Low BTU Gas Field" means a reservoir of Low BTU Gas so declared under rule 43C.

"Marginal Field" means [a natural gas reservoir that can only be exploited economically if certain additional incentives, as provided in the Marginal/Stranded Gas Fields-Gas Pricing Criteria and Guidelines, 2013 are provided and as certified by a Certified Consultant.][40]

"Tight Gas" means natural gas from a Tight Gas Field.

"Tight Gas Field" means a reservoir:

(a) from which natural gas cannot flow naturally at commercial rates with conventional methods despite having hydrocarbon reserves, as certified by a Certified Consultant;

(b) which requires advanced technologies for its exploitation/production such as high performance perforation, hydraulic fracturing, horizontal wells, multilateral wells and/or infill drilling or combination of these technologies or any new technology acceptable to the Director General, Petroleum Concessions;

(c) which has an estimated effective permeability of less than 1.0 milliDarcy, as certified by a Certified Consultant, using Tight Gas Data, based on (i) core data/analysis corrected to reservoir conditions; (ii) well test data/analysis – DST, build up and draw down; (iii) nuclear magnetic resonance method, pressure transient analysis; or (iv) any other method or combination of methods considered acceptable by the Director General, Petroleum Concessions; and

(d) so declared under rule 43C.

"Tight Gas Data" means the information to be provided pursuant to rule 43J(2).

43C. **Tight Gas Field, Low BTU Gas Field and Marginal Field notice and application.-**

omitting here will not change the definition in the OGRA Ordinance and issues which may be faced as a result of the OGRA definition could remain. What those may be is not clear as the OGRA Ordinance does not have direct application over the upstream activities. But by deleting here it is an effort to not highlight to OGRA that all Low BTU Gas, by definition, would automatically not fall within its definition of natural gas.

[38] Policy says less than 450btu/scf in the definition, but pricing assumes up to and including 450btu.

[39] LBP, pg.6 says certificate should be from "at least from the following 3" labs, however herein it has been taken to mean just from one.

[40] This definition must be improved. The MGFG is not adequate in defining this.

(1) When submitting a declaration of a deposit being commercial, applying for a lease under rule 24 and on granting a lease under rule 27, the notice, application and grant shall state if it is as a Tight Gas Field, Low BTU Gas Field or a Marginal Field (and in no event more than one such classification).

(2) Along with the declaration of a deposit being commercial under rule 24(1), of (i) a Tight Gas Field, or a Marginal Field a reserves certification by a Certified Consultant will be provided or (ii) a Low BTU Gas Field certification from a Certified Laboratory shall be provided.

(3) If a discovery of petroleum is refused by the Director General, Petroleum Concessions as a commercial discovery of a Tight Gas Field or Low BTU Gas Field or Marginal Field, it does not preclude another declaration being made as to it being a commercial discovery under any other classification. The licence shall be extended for three months after any such refusal, to the extent of such discovery area, provided there may be only one such extension.

(4) Rule 24(1), after the words "necessary appraisal" insert "evaluation, commercialisation"

43D. **Retention of discovery of Low BTU Gas or a Marginal Field.-**

In the case of a discovery which is Low BTU Gas or a Marginal Field, the Director General, Petroleum Concessions may renew the licence, to the extent of the discovery area, by up to five years[41] in addition to any period of appraisal provided under rule 22, to determine options for the development and marketing of such natural gas.[42]

43E. **Lease period in relation to a Tight Gas, Low BTU Gas and Marginal Fields.-**

(1) Notwithstanding rule 32, the Director General, Petroleum Concessions shall, on being satisfied of the commercial discovery of the reservoir hosting Tight Gas, grant a lease in respect of such discovery area, for the period for which application has been made and supported by relevant technical and other information but shall not exceed thirty years. In the event such lease is initially granted for a period less than thirty years, the same may be extended for the remaining period provided commercial production continues.

(2) Upon application from a holder of a lease in respect of a Tight Gas Field, the Director General, Petroleum Concessions may renew such lease for a period,

[41] MGFG and LBP both say "minimum of 5 years, but "up to" 5 years appears more appropriate.

[42] There is some debate as to whether this 5 years would be before or after the DoC. Our position is it should be before. The LBP and MGFG are open to interpretation as the initial extra 5 years could be either 5 years "from the date of approval of the development plan" or it could be an extension of 5 years to determine development options and marketing of gas after the date of approval of the development plan.

not exceeding ten years, if commercial production is continuing at the time of the application, subject to the following:-

(a) the request for a renewal along with revised development plan is submitted to the Director General, Petroleum Concessions not less than one years prior to expiry of initial term; and

(b) the area is producing on a regular commercial basis on the date of the request.

(3) Notwithstanding the limit of duration of a lease under rule 32, in the event of a lease being granted over a Low BTU Gas Field or a Marginal Field, the lease period shall be extended by the Development Retention Period, as defined in sub-rule (4). Such extension shall be recorded by way of a lease amendment granted promptly following the end of the Development Retention Period.

(4) For the purposes of sub-rule (3), "Development Retention Period" means up to five years, which the Director General, Petroleum Concessions may allow, on the provision of justification, in order to facilitate the holder of a lease over a Low BTU Gas Field or Marginal Field to implement an approved development plan (or any addendum thereto), provided such extended period shall automatically cease on, the commencement of commercial production from such lease, or relevant part of such lease. The said limit of five years may be extended to up to 10 years in the event the holder of a lease had not availed of the retention period permitted under rule 43D[43].

[43F. **Royalty.-**

The following shall be deemed inserted after rule 36(3):

"(3A) Notwithstanding sub-rule (3) and the definition of "Wellhead value", from the amount of royalties payable from production of Tight Gas or Low BTU Gas, in respect of any one year of the term of a lease, there shall be no deduction of any expenditure except allowed transportation cost. In the event of Tight Gas or Low BTU Gas being produced from the same lease with other natural gas any expenditure (including lease rent, if appropriate) would be equitably apportioned as agreed with the DGPC."][44]

43G. **Suspension of production of Tight Gas.-**

[43] The latter option is to facilitate Low BTU and MG fields which may wish to sign with IPPs as they may need to have leases first signed and then look a longer period to commercialize.

[44] Delete if opt not to make any changes to royalty, and adjust subsequent numbering accordingly. See para 4.10.5 of the Report.

At the end of sub-rule 42(1) the following shall be deemed inserted:

"In the case of a lease over a Tight Gas Field,

(a) such lease shall not be so revoked unless suspension of production has exceeded a cumulative period of one year during the term of the lease;

(b) production shall be deemed to have been suspended for a full month if production is suspended for more than 15 days in that month;

(c) with respect to sub-rule (a) and (b), any period of suspension on account of (i) force majeure; or (ii)planned plant shutdown for maintenance shall be excluded; and

(d) the Director General, Petroleum Concessions may grant further extensions, on case to case basis, subject to justifications acceptable to it."

43H. **Tight Gas or Low BTU Gas discovery in a lease area.-**

(a) In the event a new commercial discovery as referred to in sub-rule 62A(3) is a discovery of Tight Gas, either, the term of the existing lease may be extended by up to thirty years to accommodate the discovery of Tight Gas, which may be extended pursuant to rule 43E(1), or, subject to justifying to the Director General, Petroleum Concessions, a separate lease shall be granted. With an application for an extension or a new lease, either an addendum to an existing development plan or a development plan, as appropriate, shall be provided.

(b) In the event a new commercial discovery as referred to in sub-rule 62A(3) is a discovery of Low BTU Gas the term of the existing lease may be extended by up to the period provided in rules 32 and 43E(3) or, subject to justifying to the Director General, Petroleum Concessions, a separate lease shall be granted.[45]

(c) In the event of a lease being extended to include a Low BTU Gas or Tight Gas discovery, as provided in sub-rule (a) or (b), upon expiry of the original term of the lease, the area of the lease which does not comprise the discovery area of Tight Gas or Low BTU Gas, shall be relinquished, except to the extent, to the Director General, Petroleum Concessions' satisfaction, it would impede the production operations of the Tight Gas or Low BTU Gas wells, as appropriate. The remaining area could be renewed if a Tight Gas Field pursuant to rule 43E(2) or if a Low BTU Field or Marginal Field pursuant to rule 34(2).

(d) If a lease area is extended to accommodate a discovery of Tight Gas or Low BTU Gas, rent shall be payable under the terms of such amended lease; whereas

[45] This is not provided for in the LBP, but the principle of the TGP has been followed.

if a separate lease is granted rent shall be payable on the subsequently granted lease only to the extent of that the area which, when projected vertically at the surface, is beyond the area of the original lease.

43I. **Mixed well production of Tight Gas and other natural gas.-**

(1) In the event a well is capable of producing both Tight Gas as well as other natural gas, such well shall be completed in one interval so as not to allow commingling, unless the process set out in sub-rule (2) is followed.

(2) Tight Gas and other natural gas may be produced from the same well, provided it is through dual completion or other internationally acceptable method approved by the Director General, Petroleum Concessions for which approval the Director General, Petroleum Concessions may require a report from a Certified Consultant. The holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for Tight Gas and other natural gas or as otherwise reasonably required by the Director General, Petroleum Concessions.

(3) In case of joint production from multiple wells of Tight Gas and other natural gas using the same surface infrastructure, the holder of the petroleum right shall provide a monthly report containing the daily wellhead gas production data for such month, for each well producing Tight Gas and other natural gas, respectively, or as otherwise reasonably required by the Director General, Petroleum Concessions.

(4) In relation to Tight Gas, produced with or without other natural gas, the holder of the petroleum right shall put in place mechanism for observation of the wellhead gas flow rates by the representative(s) of the Director General, Petroleum Concessions, should the Director General, Petroleum Concessions so request.

43J. **Data provided to Certified Consultants.-**

(1) The holder of a petroleum right shall ensure data is promptly transmitted electronically to the Authority and, when engaged, the Certified Consultant.

(2) To facilitate the Certified Consultant in its analysis to determine whether natural gas discovered is Tight Gas the holder of a petroleum right shall provide to the Certified Consultant as much data and supporting material as is reasonably possible to generate reliable reports with a high degree of accuracy, including but not limited to, logs, cores, ditch cutting, seismic, VSP.

(3) The submission of incorrect data or material to a Certified Consultant or Authority, with the intention of distorting the results to determine a reservoir as a Tight Gas Field when it otherwise would not be shall attract a fine of up to, the Pakistan Rupee equivalent of, US$5 million. In the event of any subsequent wrongful submission in the same petroleum right with such an intention, the petroleum right as against the petroleum right holder or holders which submitted the distorted data or material shall be revoked. Any such fine will be payable by the party providing the data or material and any party complicit in intending to distort the results shall be also fined in a similar manner. Any such fine shall neither be recoverable from any other holder of a petroleum right, nor be a tax deductible expense, and shall be without prejudice to any other legal penalties or remedies.

METHOD I

(SCHEDULES G, H & I)

See Para 5.5

SCHEDULE G: SUPPLEMENTAL AGREEMENT FOR TIGHT GAS, LOW BTU GAS AND MARGINAL FIELDS (2013 PCA'S)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR TIGHT GAS,

LOW BTU GAS AND MARGINAL FIELDS

[Note – All Article numbers referred to herein should be verified against the PCA actually being amended.]

SUPPLEMENTAL AGREEMENT TO THE

[•] PETROLEUM CONCESSION AGREEMENT

(BLOCK [•])(ZONE [•])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [•] day of [•] 201[•] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. [[ABC], a company incorporated under the laws of [•], having an office at [•] ("**ABC**");]

3. [[XYZ], a company incorporated under the laws of [•], having an office at [•] ("**XYZ**");]

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");] and

5. [[PROVINCIAL HOLDING COMPANY], a company incorporated under the laws of Pakistan, having its registered office. [•] (“**PHC**”)]

the PRESIDENT, [ABC, XYZ, GHPL and PHC] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[46]:

a) On [•] the President granted to [ABC and XYZ][47], the Petroleum Exploration Licence No. [•] in respect of Block No. [•]. Simultaneous with the grant of the said Licence, the same parties executed the [•] Petroleum Concession Agreement (“**PCA**”, which term shall include any amendments or novations which may have been agreed from time to time).

[46]Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.

[47] Amend to reflect original Working Interest Owners.

b) The Government of Pakistan notified the Tight Gas (Exploration and Production) Policy, 2011, the Low BTU Gas Pricing Policy, 2012 and the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines, 2013 that offer certain incentives.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Tight Gas (Exploration and Production) Policy, Low Btu Gas Pricing Policy, and Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines are received by the Working Interest Owners.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Parties intend that the entire Part IV-A of the Rules shall apply to the PCA and any Licence and Lease, notwithstanding Articles 30.5 and 30.6.

4. This Supplemental Agreement shall be effective from the date first above mentioned.

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning as stipulated therein."

5.2 In Articles 1.46 and 1.68, respectively, the words "Low BTU Gas Policy" and "Tight Gas Policy" shall be replaced with the word "Rules".

5.3 Article 1.47 and 1.69, respectively, shall be replaced as follows: ""Low BTU Field" shall be as defined in the Rules" and ""Tight Gas Field" shall be as defined in the Rules".

5.4 After Article 1.47, a new article, Article 1.47A shall be inserted as follows: "Marginal Field" shall be as defined in the Rules."

5.5 In Article 1.63, being the definition of the "Rules", prior to the word "including" the following shall be inserted: "as amended *vide* S.R.O [●] *[insert day the 2013 Rules are amended]*".

5.6 In Article 6.1, after the word “Months” shall be inserted “, or six (6) Months if the Working Interest Owners are of the opinion it may be a Discovery of Tight Gas,”.

5.7 In Article 6.4, after the word “Months” shall be inserted “, or eight (8) Months in the case of a Discovery of Tight Gas,”.

5.8 Article 6.15 shall be replaced with the following:

“In the case of a Discovery of Low BTU Gas or a Marginal Field, the Working Interest Owners shall be allowed additional periods of renewals and/or extensions, as provided in the Rules.”

5.9 Article 10.2(g) shall be deleted and replaced with the following new Article 10.2(g):

“(i) Low Btu Gas

Whenever a Working Interest Owner is selling pipeline quality Natural Gas of acceptable specification to the Government or its nominated buyer, from a Low BTU Gas Field, it shall receive a price set out below, using the following procedure:

a. Immediately prior to the processing facility the Low BTU Gas shall be measured using, *inter alia*, an online gas chromatograph, at which point the calorific value of such gas shall be recorded.

b. Based on such recorded value the price shall be fixed at US$6 per MMBTU for 450[48] BTU/SCF plus US$0.01 per MMBTU for each BTU/SCF reduction below 450BTU/SCF, to a limit of 175BTU/SCF. The maximum price at 175BTU/SCF shall be US$8.75/MMBTU.

c. By way of example, if Low BTU Gas entering the processing facility was 395BTU/SCF, price would be US$6.55 per MMBTU.

d. The Operator shall submit to the authority concerned the aforementioned formula for price determination every six months, which shall be notified in the official Gazette.[49]

(ii) Tight Gas

(A) For sales of Tight Gas, except as provided in sub-article (B), below, sub-article (f), above, shall apply with sub-article (f)(a) replaced with the following:

---

[48] The Low BTU Policy also says that the $6 price will apply to 450-600btu/scf gas, but definition itself doesn’t allow that.

[49] To confirm if the Govt will notify every six months.

The price of pipeline quality Natural Gas from a Tight Gas Field shall be computed and notified in United States Dollars per MMBTU according to the following formula:

Pg = (Pm * Dz / Cf) *140%

Where,

"**Pg**" is the gas price in USD per MMBTU.

"**Pm**" is the Applicable Marker Price in USD per barrel determined as follows:

- If RCP is USD20/barrel or below, Pm equals RCP;
- If RCP is higher than USD20/barrel and not over USD 30/barrel, Pm equals 20 plus 50% of the incremental RCP above USD20/barrel;
- If RCP is higher than USD 30/barrel and not over USD 40/barrel, Pm equals 25 plus 30% of the incremental RCP above USD 30/barrel;
- If RCP is higher than USD40/barrel and not over USD 70/barrel, Pm equals 28 plus 20% of the incremental RCP above USD 40/barrel;
- If RCP is higher than USD 70/barrel and not over USD 100/barrel, Pm equals 34 plus 10% of the incremental RCP above USD 70/barrel;
- If the RCP is above USD100/barrel, Pm equals 37.
- The said ceiling of USD 100/barrel would be reviewed as and when the pricing dynamics significantly change in the international market.

"**Dz**" is the zonal index which shall have the value of 67.5% for Zone III; 72.5% for Zone II, 77.5% for Zone I.

"**Cf**" is the Applicable Conversion Factor, the weighted average of the heating values expressed in MMBTU per barrel for the basket of Arabian/Persian Gulf Crude Oils imported in Pakistan.

(B) Sub-article (A) above shall not apply to any Natural Gas produced from a well, even if in a Tight Gas Field, which has an effective permeability of more than 1.0 milliDarcy. As part of the information provided under rule 48, detailed permeability data will be provided which the Authority may require to be certified by a Certified Consultant. Any certification may be re-done by the Working Interest Owners but any change in price shall not have retrospective effect."

(iii) Marginal Field Gas

For sales of Natural Gas from a Marginal Field, sub-article (f) shall apply with the formula in sub-article (f)(a) replaced as follows:

"**Pg = (Pm*Dz/Cf) + US$0.25/MMBTU**".

(iv) Illustration of the workings of the gas price determination for gas produced from a Tight Gas Field and Marginal Field is at Annex [●] and Annex [●]."

5.10 Insert as Annex [●] and Annex [●], Schedule I and Schedule II, hereto.

5.11 In Article 10.4(ii),

(a) in the paragraph at the end, after the words "Low BTU Gas" insert "or gas from a Marginal Field"; and

(b) the following shall be inserted as a new paragraph at the end:

"To the extent of sales of Natural Gas from a Marginal Field, where the price is in excess of US$8 per MMBTU, the formula above shall be replaced with "WLG = 0.5 x (PG – 8) x V"."

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President of the Islamic Republic of Pakistan	For and on behalf of ABC
________________________	________________________
Print Name: Title: NIC:	Print Name: Title: NIC:
Witnesses:	Witnesses:
1. __________________ Name: CNIC:	1. __________________ Name: CNIC:
2. __________________	2. __________________

Name:
CNIC:

Name:
CNIC:

For and on behalf of XYZ

____

Print Name:
Title:
CNIC:

Witnesses:

1. ______________________
   Name:
   CNIC:

2. _____________________
   Name:
   CNIC:

For and on behalf of Government Holdings (Pvt) Ltd.

____

Print Name:
Title:
CNIC:

Witnesses:

1. _______________________
   Name:
   CNIC:

2. _______________________
   Name:
   CNIC:

For and on behalf of [Provincial Holding Company]

____

Print Name:
Title:
CNIC:

Witnesses:

1. ______________________
   Name:
   CNIC:

2. _____________________
   Name:
   CNIC:

Schedule I

Annex [•] of the PCA

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF TIGHT GAS POLICY

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Ceiling Price (C & F)	100.0000

B. Apply sliding scale discounts to C&F crude oil price after floor and upto ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
Up to 20	100%	=20.0000 (A)
Above 20 to 30	Plus 50% of incremental increase	= 5.0000 (B)
Above 30 to 40	Plus 30% of incremental increase	=3.0000 (C)
Above 40 to 70	Plus 20% of incremental increase	= 6.0000 (D)
Above 70 to 100	Plus 10% of incremental increase	= 3.0000 (E)
Marker Price	(A+B+C+D+E)	37.0000

C. Marker Price X respective Zonal discount

Zone-I	77.5% of Marker Price	28.6750
Zone-II	72.5% of Marker Price	26.8250
Zone-III	67.5% of Marker Price	24.9750

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		5.0307
Zone-II		4.7061
Zone-III		4.3816

F. Tight Gas Price = Zone wise gas price X 140% (US$/MMBtu)

Zone-I		**7.0430**
Zone-II		**6.5885**
Zone-III		**6.1342**

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

Schedule II

(Annex [•] of the PCA)

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF MARGINAL/STRANDED GAS PRICING GUIDELINES

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Floor Price (C & F)	10.0000
	Ceiling Price (C & F)	110.0000

B. Apply sliding scale discounts to C&F crude oil price after floor & up to ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
0 to 30	100%	=30.0000 (A)
Above 30 to 50	Plus 50% of incremental increase	=10.0000 (B)
Above 50 to 70	Plus 30% of incremental increase	= 6.0000 (C)
Above 70 to 110	Plus 20% of incremental increase	= 8.0000 (D)
Marker Price (A+B+C+D)		54.0000

C. Marker Price X respective Zonal discount

Zone-I	69.66% of Marker Price	37.6164
Zone-II	66.5% of Marker Price	35.9100
Zone-III	63.33% of Marker Price	34.1982

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		6.5993
Zone-II		6.3000
Zone-III		5.9997

F. Marginal/Stranded Field Gas Price = Zone wise gas price + US$0.25/MMBtu (US$/MMBtu)

Zone-I		**6.8493**
Zone-II		**6.5500**
Zone-III		**6.2497**

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

SCHEDULE H: SUPPLEMENTAL AGREEMENT FOR TIGHT GAS, LOW BTU GAS AND MARGINAL FIELDS (PRE-2013 PCA'S)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR TIGHT GAS,

LOW BTU GAS AND MARGINAL FIELDS

[Note1 - unless Government allows otherwise, this Supplemental Agreement may not be executed if parties have executed a supplemental agreement to convert to the 2012 Policy, in relation to a particular petroleum right.]

[Note 2 – All Article numbers referred to herein should be verified against the PCA actually being amended.]

SUPPLEMENTAL AGREEMENT TO THE

[•] PETROLEUM CONCESSION AGREEMENT

(BLOCK [•])(ZONE [•])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [•] day of [•] 201[•] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. ABC, a company incorporated under the laws of [•], having an office at [•] ("**ABC**");

3. XYZ, a company incorporated under the laws of [•], having an office at [•] ("**XYZ**"); and

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");][50]

the PRESIDENT, [ABC, XYZ and GHPL] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[51]:

a) On [•] the President granted to [ABC, XYZ and GHPL][52], the Petroleum Exploration Licence No. [•] in respect of Block No. [•]. Simultaneous with the grant of the said Licence, the same parties executed the [•] Petroleum Concession Agreement ("**PCA**", which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Tight Gas (Exploration and Production) Policy, 2011, the Low BTU Gas Pricing Policy, 2012 and the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines, 2013 that offer certain incentives.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Tight Gas (Exploration and Production)

[50] Less likely to be a party if PCA between 2001 and 2009.
[51] Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.
[52] Amend to reflect original Working Interest Owners. GHPL is less likely to be a party if PCA between 2001 and 2009.

Policy, Low Btu Gas Pricing Policy, and Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines are received by the Working Interest Owners.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Parties intend that the entire Part IV-A of the Rules shall apply to the PCA and any Licence and Lease, notwithstanding Articles 30.5 and 30.6.

4. This Supplemental Agreement shall be effective from the date first above mentioned[53].

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 In the sub-article defining the "Rules", replace the words "Effective Date" with [•] *[insert day the 2013 Rules are amended]*.

5.3 [In Article 6.1, after the word "Months" shall be inserted ", or six (6) Months, if the Working Interest Owners are of the opinion it may be a Discovery of Tight Gas,".][54]

[or]

[In Article 6.1, after the second use of the word "Rules", shall be inserted ", or, if the Working Interest Owners are of the opinion it may be a Discovery of Tight Gas, six (6) Months from the date of termination of drilling and testing of the respective Exploration Well,".][55]

5.4 In Article 6.4[56], after the word "Months" shall be inserted ", or eight (8) Months in the case of a Discovery of Tight Gas,".

[53] In exceptional circumstances the Government may consider some retrospectivity.
[54] Use if amending 2001-Model PCA or 2009-Model PCA.
[55] Use if amending 1994-Model PCA.
[56] This may be checked for earlier PCAs as variations in Article numbers is possible.

5.5 An additional sub-article shall be inserted at the end of Article 6, which shall read as follows:

"In the case of a Discovery of Low BTU Gas or a Marginal Field, the Working Interest Owners shall be allowed additional periods of renewals and/or extensions, as provided in the Rules."

5.6 (1) A new Article [10.2f(a)(1)][57] shall be inserted as follows:

"For the sale of:

(i) Natural Gas from a Low BTU Gas Field, the pricing mechanism in Annex [•] shall apply;

(ii) Natural Gas from a Marginal Field, the pricing mechanism in Annex [•] shall apply; and

(iii) Natural Gas from a Tight Gas Field, the pricing mechanism in Annex [•] shall apply, except such price shall not apply to any Natural Gas produced from a well, even if in a Tight Gas Field, which has an effective permeability of more than 1.0 milliDarcy. As part of the information provided under rule [•][58], detailed permeability data will be provided which the Authority may require to be certified by a Certified Consultant. Any certification may be re-done by the Working Interest Owners but any change in price shall not have retrospective effect.

(2) Illustration of the workings of the gas price determination for gas produced from Tight Gas Field and a Marginal Field is at Annex [•] and Annex [•]."

(3) Schedules I, II, III, IV and V hereto shall be inserted at the end of the annexures to the PCA as new Annexures [•] [•], [•], [•] and [•].][59]

5.7 *[choose one of the following options in square brackets, depending on vintage of PCA to be amended:]*
[In Article 10.4, the following shall be inserted, at the end:

"The above formula to the extent relating to WLG shall be replaced to the extent of sales from a,

(a) Marginal Field, with "WLG = 0.5 x (PG – 8) x V";

---

57 Replace with 10.1(iv)(1)(a) for 1994 PCAs and 10.2(f)(1)(a) for 2001 PCAs
58 Insert 48 if applicable Rules are 2009 Rules, and 45 if applicable Rules are 2001 and 1986 Rules.
59 Insert Schedules and tally up cross references with clause 5.6.

(b) Low BTU Gas Field, with "WLG = 0.25 x (PG – BR) x V"."][60]

[or]
[In Article 10.4, the following shall be inserted, at the end:

"For the sale of Natural Gas from a Low BTU Gas Field or Marginal Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.2(f) above and the actual sale price using the following formula:

(a) to the extent of sales from a Marginal Field, WLG = 0.5 x (PG-8) x V; and

(b) to the extent of sales from a Low BTU Field, WLG = 0.25 x (PG-BR) x V,

where,

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

The "Base Price" will be the price as outlined in Article 10.2(f) for Natural Gas from a Low BTU Field or Marginal Field. Where the sale price of such Natural Gas is less or equal to the Base Price, the WLG shall be zero."][61]

[or]
[After Article 10.1, a new Article 10.1A shall be inserted, as follows:

"For the sale of Natural Gas from a Low BTU Gas Field or Marginal Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.1(iv)[62] above and the actual sale price using the following formula:

(a) to the extent of sales from a Marginal Field, WLG = 0.5 x (PG-8) x V; and

(b) to the extent of sales from a Low BTU Field, WLG = 0.25 x (PG-BR) x V,

where,

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

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60 Use if amending 2009-Model PCA.
61 Use if amending 2001-Model PCA.
62 This may be checked for earlier PCAs as variations in Article numbers is possible.

The "Base Price" will be the price as outlined in Article 10.1(iv) for Natural Gas from a Low BTU Field or Marginal Field. Where the sale price of such Natural Gas is less or equal to the Base Price, the WLG shall be zero."][63]

5.8 At the end of Article 23, a new Article 23.6[64] shall be inserted:

"The first tier of production bonus (i.e. "[At the start][65][On Commencement][66] of Commercial Production") will not be payable in the case of production of Low BTU Gas and gas from a Marginal Field."

6. Transitional

(a) In the event a Discovery is in the process of Appraisal on the date hereof the Appraisal Programme may be amended as necessary to appraise the Discovery as a possible Tight Gas Field, Low BTU Gas Field or Marginal Field. In such a case, the time for appraisal may also be extended, such as to get required certification.

(b) In the event of a Discovery not having been declared a Commercial Discovery and not in the process of Appraisal on the date hereof, if the Working Interest Owners consider the Discovery to be potentially a Commercial Discovery as a Tight Gas Field, a Low BTU Gas Field or a Marginal Field, the Working Interest Owners may appraise the Discovery Area under Article 6.3. The Appraisal Programme[67] shall be submitted within six months of the date hereof or the period referred to in Article 6.3, whichever is later. In the event appraisal has already been undertaken by the Working Interest Owners for such Discovery Area, the time allowed for further appraisal shall be limited to the time for necessary certification.

(c) For the avoidance of doubt any further time given for Appraisal under clauses (a) and (b) above shall not extend the term of a petroleum right.

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President of the Islamic Republic of Pakistan	For and on behalf of ABC
________________________ Print Name:	________________________ Print Name:

63 Use if amending 1994-Model PCA.
64 This may be checked for earlier PCAs as variations in Article numbers is possible.
65 Use if amending 2009-Model PCA.
66 Use if amending pre-2009-Model PCAs.
67 If amending a 1994 Model PCA, the terms "Appraisal" and "Appraisal Programme" need not be capitalized, unless defined therein.

Title:
NIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

For and on behalf of XYZ

____
Print Name:
Title:
CNIC:

Witnesses:

1 ______________________
Name:
CNIC:

2 ____________________
Name:
CNIC:

Title:
NIC:

Witnesses:

1. ______________________
Name:
CNIC:

2. ______________________
Name:
CNIC:

For and on behalf of Government Holdings (Pvt) Ltd.

____
Print Name:
Title:
CNIC:

Witnesses:

1. ______________________
Name:
CNIC:

2. ______________________
Name:
CNIC:

Schedule I

(Annex [•] of the PCA)

Pricing for Low BTU Gas

Whenever a Working Interest Owner is selling pipeline quality Natural Gas of acceptable specification to the Government or its nominated buyer, from a Low BTU Gas Field, it shall receive a price set out below, using the following procedure:

a. Immediately prior to the processing facility the Low BTU Gas shall be measured using, *inter alia*, an online gas chromatograph, at which point the calorific value of such gas shall be recorded.

b. Based on such recorded value the price shall be fixed at US$6 per MMBTU for 450[68] BTU/SCF plus US$0.01 per MMBTU for each BTU/SCF reduction below 450BTU/SCF, to a limit of 175BTU/SCF. The maximum price at 175BTU/SCF shall be US$8.75/MMBTU.

c. By way of example, if gas entering the processing facility was 395BTU/SCF, price would be US$6.55 per MMBTU.

d. The Operator shall submit to the authority concerned the aforementioned formula for price determination every six months, which shall be notified in the official Gazette.[69]

[68] The Low BTU Policy also says that the $6 price will apply to 450-600btu/scf gas, but definition itself doesn't allow that.

[69] To confirm if the Govt will notify every six months.

Schedule II

(Annex [•] of the PCA)

Pricing for gas from a Marginal Field

The price of acceptable pipeline quality Natural Gas from a Marginal Field shall be computed and notified in United States Dollars per MMBTU according to the following formula

Pg = (Pm*Dz/Cf) + US$0.25/MMBTU

Where,

"**Pg**" is the gas price in USD per MMBTU.

"**Pm**" is the Applicable Marker Price in USD per barrel determined as follows:

- When RCP is USD10/barrel or below, Pm equals USD10.
- When RCP is higher than USD10/barrel & not over USD 30/barrel, Pm equals RCP;
- When RCP is higher than USD 30/barrel and not over USD 50/barrel, Pm equals 30 plus 50% of the incremental RCP above USD 30/barrel;
- When RCP is higher than USD50/barrel and not over USD 70/barrel, Pm equals 40 plus 30% of the incremental RCP above USD 50/barrel;
- When RCP is higher than USD 70/barrel and not over USD 110/barrel, Pm equals 46 plus 20% of the incremental RCP above USD 70/barrel;
- When the RCP is above USD110/barrel, Pm equals 54.
- The said ceiling of USD 110/barrel would be reviewed as and when the pricing dynamics significantly change in the international market.

"**Reference Crude Price**" or "**RCP**" means the weighted average C&F price (FOB price plus freight on AFRA basis which is a deemed chartered rate) of the basket of Arabian/Persian crude oils imported into Pakistan during the first six months periods of the seven months immediately preceding the relevant Price Notification Period as published in an internationally recognized publication acceptable to the Parties.

"**Dz**" is the zonal index which shall have the value of 63.33% for Zone III; 66.5% for Zone II, 69.66% for Zone I.

"**Cf**" is the Applicable Conversion Factor, the weighted average of the heating values expressed in MMBTU per barrel for the basket of Arabian/Persian Gulf Crude Oils imported in Pakistan.

The prices notified would be after rounding the quotient to four decimal places.

Schedule III

Annex [•] of the PCA

Pricing for Tight Gas

The price of pipeline quality Natural Gas from a Tight Gas Field shall be computed and notified in United States Dollars per MMBTU according to the following formula:

Pg = (Pm * Dz / Cf) *140%

Where,

"**Pg**" is the gas price in USD per MMBTU.

"**Pm**" is the Applicable Marker Price in USD per barrel determined as follows:

- If RCP is USD20/barrel or below, Pm equals RCP.
- If RCP is higher than USD20/barrel and not over USD 30/barrel, Pm equals 20 plus 50% of the incremental RCP above USD20/barrel;
- If RCP is higher than USD 30/barrel and not over USD 40/barrel, Pm equals 25 plus 30% of the incremental RCP above USD 30/barrel;
- If RCP is higher than USD40/barrel and not over USD 70/barrel, Pm equals 28 plus 20% of the incremental RCP above USD 40/barrel;
- If RCP is higher than USD 70/barrel and not over USD 100/barrel, Pm equals 34 plus 10% of the incremental RCP above USD 70/barrel;
- If the RCP is above USD100/barrel, Pm equals 37.
- The said ceiling of USD 100/barrel would be reviewed as and when the pricing dynamics significantly change in the international market.

"**Reference Crude Price**" or "**RCP**" means the weighted average C&F price (FOB price plus freight on AFRA basis) of the basket of Arabian/Persian crude oils imported into Pakistan during the first six months periods of the seventh months immediately preceding the relevant Price Notification Period as published in an internationally recognized publication acceptable to the Parties. C&F Price will be arrived at on the basis of FOB price of Arabian/Persian crude oils imported into Pakistan plus freight on AFRA, which is deemed chartered rates.

"**Dz**" is the zonal index which shall have the value of 67.5% for Zone III; 72.5% for Zone II, 77.5% for Zone I.

"**Cf**" is the Applicable Conversion Factor, the weighted average of the heating values expressed in MMBTU per barrel for the basket of Arabian/Persian Gulf Crude Oils imported in Pakistan.

Schedule IV

(Annex [•] of the PCA)

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF MARGINAL/STRANDED GAS PRICING GUIDELINES

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Floor Price (C & F)	10.0000
	Ceiling Price (C & F)	110.0000

B. Apply sliding scale discounts to C&F crude oil price after floor & upto ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
0 to 30	100%	=30.0000 (A)
Above 30 to 50	Plus 50% of incremental increase	= 10.0000 (B)
Above 50 to 70	Plus 30% of incremental increase	=6.0000 (C)
Above 70 to 110	Plus 20% of incremental increase	=8.0000 (D)
Marker Price (A+B+C+D)		54.0000

C. Marker Price X respective Zonal discount

Zone-I	69.66% of Marker Price	37.6164
Zone-II	66.5% of Marker Price	35.9100
Zone-III	63.33% of Marker Price	34.1982

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		6.5993
Zone-II		6.3000
Zone-III		.9997

F. Marginal/Stranded Field Gas Price = Zone wise gas price + US$0.25/MMBtu (US$/MMBtu)

Zone-I		6.8493
Zone-II		6.5500
Zone-III		6.2497

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

Schedule V

Annex [•] of the PCA

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF TIGHT GAS POLICY

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Ceiling Price (C & F)	100.0000

B. Apply sliding scale discounts to C&F crude oil price after floor and up to ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
Up to 20	100%	=20.0000 (A)
Above 20 to 30	Plus 50% of incremental increase	= 5.0000 (B)
Above 30 to 40	Plus 30% of incremental increase	=3.0000 (C)
Above 40 to 70	Plus 20% of incremental increase	= 6.0000 (D)
Above 70 to 100	Plus 10% of incremental increase	= 3.0000 (E)
Marker Price	(A+B+C+D+E)	37.0000

C. Marker Price X respective Zonal discount

Zone-I	77.5% of Marker Price	28.6750
Zone-II	72.5% of Marker Price	26.8250
Zone-III	67.5% of Marker Price	24.9750

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		5.0307
Zone-II		4.7061
Zone-III		4.3816

F. Tight Gas Price = Zone wise gas price X 140% (US$/MMBtu)

Zone-I		7.0430
Zone-II		6.5885
Zone-III		6.1342

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

SCHEDULE I: SUPPLEMENTAL AGREEMENT FOR MARGINAL FIELDS

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR MARGINAL FIELDS

[Note 1 - This Supplemental Agreement would be used either for (i) 2013-Model PCAs where the Parties did not agree to also amend the provisions regarding Low BTU and Tight Gas or (ii) other PCAs where Working Interest Owners had opted to convert to the 2012 Policy and so could not avail of the provisions in the Tight Gas Policy or Low BTU Policy, unless the Government agrees otherwise.]

[Note 2 - All Article numbers referred to herein should be verified against the PCA actually being amended.]

SUPPLEMENTAL AGREEMENT TO THE

[●] PETROLEUM CONCESSION AGREEMENT

(BLOCK [●])(ZONE [●])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [●] day of [●] 201[●] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. ABC, a company incorporated under the laws of [●], having an office at [●] ("**ABC**");

3. XYZ, a company incorporated under the laws of [●], having an office at [●] ("**XYZ**");

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");] and

5. [PROVINCIAL HOLDING COMPANY, a company incorporated under the laws of Pakistan, having its registered office at [●] ("**PHC**")]

the PRESIDENT, [ABC, XYZ, GHPL and PHC] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[70]:

a) On [●] the President granted to [ABC, XYZ and GHPL][71], the Petroleum Exploration Licence No. [●] in respect of Block No. [●]. Simultaneous with the grant of the said Licence, the same parties executed the [●] Petroleum Concession Agreement ("**PCA**"), which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines, 2013 that offer certain incentives.

[70] Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.
[71] Amend to reflect original Working Interest Owners. If PCA between 2001 and 2009 unlikely GHPL would have been a party.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines are received by the Working Interest Owners.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Parties intend that only those provisions in Part IV-A of the Rules relating to Marginal Fields shall apply to the PCA and any Licence or Lease, notwithstanding Articles 30.5 and 30.6. For the avoidance of doubt any provisions relating to Tight Gas or Low BTU Gas in the said Part IV-A shall not so apply.

4. This Supplemental Agreement shall be effective from the date first above mentioned[72].

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 [In Article 1.63, being the definition of the "Rules", prior to the word "including" shall be inserted the following: "as amended *vide SRO*[●] *[insert day the 2013 Rules are amended]*".][73]

[In Article [●], being the definition of the "Rules", replace the words "Effective Date" with [●] *[insert day after the 2013 Rules are amended]*][74]

5.3 An additional sub-article shall be inserted at the end of Article 6, which shall read as follows:

> "In the case of a Marginal Field, the Working Interest Owners shall be allowed additional periods of renewals and/or extensions, as provided in the Rules."

---

[72] In exceptional circumstances the Government may consider some retrospectivity.
[73] Use if amending 2009 or 2013-Model PCA.
[74] Use if amending pre-2009-Model PCA.

5.4 A new sub-article[10.2 f(a)(1)][75] shall be inserted as follows:

> "(1) For the sale of Natural Gas from a Marginal Field, the pricing mechanism in Annex [●] shall apply"[76]

5.5 Illustration of workings of the gas price determined for gas produced from Marginal Fields is at Annex [●]."

5.6 Schedules I and II, hereto shall be inserted at the end of the annexures to the PCA as new Annexures [●] and [●].

5.7 *[choose one of the following options in square brackets, depending on vintage of PCA to be amended:]*
[In Article 10.4(ii),

(a) in the paragraph at the end, after the words "Article 10.2(g)" insert "or gas from a Marginal Field, Article 10.2(h)"; and

(b) the following shall be inserted as a new paragraph at the end:

> "To the extent of sales of Natural Gas from a Marginal Field, where the price is in excess of US$8 per MMBTU the formula above shall be replaced with "WLG = 0.5 x (PG – 8) x V".][77]

[or]
[At the end of Article 10.4, preceding the final paragraph, the following shall be inserted as a new paragraph:

> "To the extent of sales of Natural Gas from a Marginal Field, the formula above shall be replaced with "WLG = 0.5 x (PG – 8) x V"."][78]

[or]
[At the end of Article 10.4 the following shall be inserted:

> "For the sale of Natural Gas from a Marginal Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.2(f) above and the actual sale price using the following formula:

$$WLG = 0.5 \times (PG-8) \times V$$

> where,

[75] Insert 10.1 (iv)(1)(a) for 1994-PCAs or 10.2 (f)(1)(a) for 2001 PCAs.
[76] Use if amending 2001 Model PCAs.
[77] Use if amending 2013-Model PCA.
[78] Use if amending 2009-Model PCA.

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

The "Base Price" will be the price as outlined in Article 10.2(f) for Natural Gas from a Marginal Field. Where the sale price of such gas is less or equal to the Base Price, the WLG shall be zero."][79]

[or]
[After Article 10.1, a new Article 10.1A shall be inserted, as follows:

"For the sale of Natural Gas from Marginal Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.1(iv)[80] above and the actual sale price using the following formula:

WLG = 0.5 x (PG-8) x V

where,

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

The "Base Price" will be the price as outlined in Article 10.1(iv) on Natural Gas from a Marginal Field. Where the sale price of such gas is less or equal to the Base Price, the WLG shall be zero."][81]

5.6 [At the end of Article 23, a new Article 23.6 shall be inserted:

"The first tier of production bonus (i.e. "[At the start][82][On Commencement][83] of Commercial Production") will not be payable in the case of gas from Marginal Fields."][84]

6. Transitional[85]

(a) In the event a Discovery is in the process of Appraisal on the date hereof the Appraisal Programme may be amended as necessary to appraise the Discovery as a

[79] Use if amending 2001-Model PCA.
[80] This may be checked for earlier PCAs as variations in Article numbers is possible.
[81] Use if amending 1994-Model PCA.
[82] Use if amending 2009-Model PCA.
[83] Use if amending pre-2009-Model PCA.
[84] Use only if amending pre-2013 Model PCA.
[85] To delete this clause 6 if amending 2013 Model PCA.

possible Marginal Field. In such a case, the time for appraisal may also be extended, such as to get required certification.

(b) In the event of a Discovery not having been declared a Commercial Discovery and not in the process of Appraisal on the date hereof, if the Working Interest Owners consider the Discovery to be potentially a Commercial Discovery as a Marginal Field, the Working Interest Owners may appraise the Discovery Area under Article 6.3. The Appraisal Programme[86] shall be submitted within six months of the date hereof or the period referred to in Article 6.3, whichever is later. In the event appraisal has already been undertaken by the Working Interest Owners for such Discovery Area, the time allowed for further appraisal shall be limited to the time for necessary certification.

(c) For the avoidance of doubt any further time given for Appraisal under clauses (a) and (b) above shall not extend the term of a petroleum right.

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President
of the Islamic Republic of Pakistan

____
Print Name:
Title:
NIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

For and on behalf of
ABC

____
Print Name:
Title:
NIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

For and on behalf of XYZ

For and on behalf of Government Holdings (Pvt) Ltd.

[86] If amending a 1994 Model PCA, the terms "Appraisal" and "Appraisal Programme" need not be capitalized, unless defined therein.

Print Name:
Title:
CNIC:

Witnesses:

1 ____________________
Name:
CNIC:

2 ____________________
Name:
CNIC:

Print Name:
Title:
CNIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

For and on behalf of [Provincial Holding Company]

Print Name:
Title:
CNIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

Schedule I

(Annex [•] of the PCA)

Pricing for gas from a Marginal Field

The price of acceptable pipeline quality Natural Gas from a Marginal Field shall be computed and notified in United States Dollars per MMBTU according to the following formula

Pg = (Pm * Dz / Cf) + US$0.25/MMBTU

Where,

"**Pg**" is the gas price in USD per MMBTU.

"**Pm**" is the Applicable Marker Price in USD per barrel determined as follows:

- When RCP is USD10/barrel or below, Pm equals USD10.
- When RCP is higher than USD10/barrel & not over USD 30/barrel, Pm equals RCP;
- When RCP is higher than USD 30/barrel and not over USD 50/barrel, Pm equals 30 plus 50% of the incremental RCP above USD 30/barrel;
- When RCP is higher than USD50/barrel and not over USD 70/barrel, Pm equals 40 plus 30% of the incremental RCP above USD 50/barrel;
- When RCP is higher than USD 70/barrel and not over USD 110/barrel, Pm equals 46 plus 20% of the incremental RCP above USD 70/barrel;
- When the RCP is above USD110/barrel, Pm equals 54.
- The said ceiling of USD 110/barrel would be reviewed as and when the pricing dynamics significantly change in the international market.

"**Reference Crude Price**" or "**RCP**" means the weighted average C&F price (FOB price plus freight on AFRA basis which is a deemed chartered rate) of the basket of Arabian/Persian crude oils imported into Pakistan during the first six months periods of the seventh months immediately preceding the relevant Price Notification Period as published in an internationally recognized publication acceptable to the Parties.

"**Dz**" is the zonal index which shall have the value of 63.33% for Zone III; 66.5% for Zone II, 69.66% for Zone I.

"**Cf**" is the Applicable Conversion Factor, the weighted average of the heating values expressed in MMBTU per barrel for the basket of Arabian/Persian Gulf Crude Oils imported in Pakistan.

The prices notified would be after rounding the quotient to four decimal places.

Schedule II

Annex [•]

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF MARGINAL/STRANDED GAS PRICING GUIDELINES

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Floor Price (C & F)	10.0000
	Ceiling Price (C & F)	110.0000

B. Apply sliding scale discounts to C&F crude oil price after floor & upto ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
0 to 30	100%	=30.0000 (A)
Above 30 to 50	Plus 50% of incremental increase	= 10.0000 (B)
Above 50 to 70	Plus 30% of incremental increase	=6.0000 (C)
Above 70 to 110	Plus 20% of incremental increase	=8.0000 (D)
Marker Price	(A+B+C+D)	54.0000

C. Marker Price X respective Zonal discount

Zone-I	69.66% of Marker Price	37.6164
Zone-II	66.5% of Marker Price	35.9100
Zone-III	63.33% of Marker Price	34.1982

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		6.5993
Zone-II		6.3000
Zone-III		5.9997

F. Marginal/Stranded Field Gas Price = Zone wise gas price + US$0.25/MMBtu (US$/MMBtu)

Zone-I		6.8493
Zone-II		6.5500
Zone-III		6.2497

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

METHOD II

(SCHEDULES J - O)

SCHEDULES J, K, L AMENDING 2013-MODEL PCA'S

SCHEDULES M, N, O AMENDING PRE-2013-MODEL PCA'S

See Para 5.5

SCHEDULE J: SUPPLEMENTAL AGREEMENT FOR TIGHT GAS (2013 PCA'S)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR TIGHT GAS FIELDS

[Note 1 – All Article numbers referred to herein should be verified against the PCA actually being amended.]

[Note 2 – In the event this is the second or third supplemental agreement incorporating one of the Policies, references herein may need to be specifically tailored to accommodate any earlier amendment.]

SUPPLEMENTAL AGREEMENT TO THE

[●] PETROLEUM CONCESSION AGREEMENT

(BLOCK [●])(ZONE [●])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [●] day of [●] 201[●] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. [ABC, a company incorporated under the laws of [●], having an office at [●] ("**ABC**");]

3. [XYZ, a company incorporated under the laws of [●], having an office at [●] ("**XYZ**");]

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");] and

5. [PROVINCIAL HOLDING COMPANY, a company incorporated under the laws of Pakistan, having its registered office at [●] ("**PHC**")]

the PRESIDENT, [ABC, XYZ, GHPL and PHC] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[87]:

a) On [●] the President granted to [ABC and XYZ][88], the Petroleum Exploration Licence No. [●] in respect of Block No. [●]. Simultaneous with the grant of the said Licence, the same parties executed the [●] Petroleum Concession Agreement ("**PCA**", which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Tight Gas (Exploration and Production) Policy, 2011 that offers certain incentives.

[87] Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.
[88] Amend to reflect original Working Interest Owners.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Tight Gas (Exploration and Production) Policy are received by the Working Interest Owners.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Parties intend that only those provisions in Part IV-A of the Rules relating to Tight Gas shall apply to the PCA and any Licence or Lease, notwithstanding Articles 30.5 and 30.6. For the avoidance of doubt, any provisions relating to Low BTU Gas or Marginal Fields in the said Part IV-A shall not so apply.

4. This Supplemental Agreement shall be effective from the date first above mentioned[89].

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 In Article 1.63, being the definition of the "Rules", prior to the word "including" shall be inserted the following: "as amended to [●] *[insert day the 2013 Rules are amended]*".

5.3 In Article 1.68 the words "Tight Gas Policy" shall be replaced with the word "Rules".

5.4 Article 1.69 shall be replaced as follows: ""Tight Gas Field" shall be as defined in the Rules".

5.5 In Article 6.1, after the word "Months" shall be inserted ", or six (6) Months if the Working Interest Owners are of the opinion it may be a Discovery of Tight Gas,".

5.6 In Article 6.4, after the word "Months" shall be inserted ", or eight (8) Months in the case of a Discovery of Tight Gas,".

---

[89] In exceptional circumstances the Government may consider some retrospectivity.

5.7 Article 10.2(g) shall have the references to "Tight Gas" and Tight Gas Policy" deleted and a new Article 10.2(h) shall be inserted as follows:

"(A) For sales of Tight Gas, except as provided in sub-article (B), below, sub-article (f), above, shall apply with sub-article (f)(a) replaced with the following:

The price of pipeline quality Natural Gas from a Tight Gas Field shall be computed and notified in United States Dollars per MMBTU according to the following formula:

Pg = (Pm * Dz / Cf) *140%

Where,

"**Pg**" is the gas price in USD per MMBTU.

"**Pm**" is the Applicable Marker Price in USD per barrel determined as follows:

- If RCP is USD20/barrel or below, Pm equals RCP;
- If RCP is higher than USD20/barrel and not over USD 30/barrel, Pm equals 20 plus 50% of the incremental RCP above USD20/barrel;
- If RCP is higher than USD 30/barrel and not over USD 40/barrel, Pm equals 25 plus 30% of the incremental RCP above USD 30/barrel;
- If RCP is higher than USD40/barrel and not over USD 70/barrel, Pm equals 28 plus 20% of the incremental RCP above USD 40/barrel;
- If RCP is higher than USD 70/barrel and not over USD 100/barrel, Pm equals 34 plus 10% of the incremental RCP above USD 70/barrel;
- If the RCP is above USD100/barrel, Pm equals 37.
- The said ceiling of USD 100/barrel would be reviewed as and when the pricing dynamics significantly change in the international market.

"**Dz**" is the zonal index which shall have the value of 67.5% for Zone III; 72.5% for Zone II, 77.5% for Zone I.

"**Cf**' is the Applicable Conversion Factor, the weighted average of the heating values expressed in MMBTU per barrel for the basket of Arabian/Persian Gulf Crude Oils imported in Pakistan.

(B) Sub-article (A) above shall not apply to any Natural Gas produced from a well, even if in a Tight Gas Field, which has an effective permeability of more than 1.0 milliDarcy. As part of the information provided under rule 48, detailed permeability data will be provided which the Authority may require to be certified by a Certified

Consultant. Any certification may be re-done by the Working Interest Owners but any change in price shall not have retrospective effect.

(C) Illustration of the workings of the Tight Gas price determination is at Annex [•]."

5.8 Schedule I, hereto shall be inserted at the end of the annexures to the PCA as Annex [•].

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President of the Islamic Republic of Pakistan	For and on behalf of ABC
__________________________ Print Name: Title: NIC:	__________________________ Print Name: Title: NIC:
Witnesses:	Witnesses:
1. ____________________ Name: CNIC:	1. ____________________ Name: CNIC:
2. ____________________ Name: CNIC:	2. ____________________ Name: CNIC:
For and on behalf of XYZ	For and on behalf of Government Holdings (Pvt) Ltd.
__________________________ Print Name: Title: CNIC:	__________________________ Print Name: Title: CNIC:
Witnesses:	Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

For and on behalf of [Provincial Holding Company]

____
Print Name:
Title:
CNIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

Schedule I

Annex [•] of the PCA

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF TIGHT GAS POLICY

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Ceiling Price (C & F)	100.0000

B. Apply sliding scale discounts to C&F crude oil price after floor and up to ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
Upto 20	100%	=20.0000 (A)
Above 20 to 30	Plus 50% of incremental increase	= 5.0000 (B)
Above 30 to 40	Plus 30% of incremental increase	=3.0000 (C)
Above 40 to 70	Plus 20% of incremental increase	= 6.0000 (D)
Above 70 to 100	Plus 10% of incremental increase	= 3.0000 (E)
Marker Price	(A+B+C+D+E)	37.0000

C. Marker Price X respective Zonal discount

Zone-I	77.5% of Marker Price	28.6750
Zone-II	72.5% of Marker Price	26.8250
Zone-III	67.5% of Markerrice	24.9750

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		5.0307
Zone-II		4.7061
Zone-III		4.3816

F. Tight Gas Price = Zone wise gas price X 140% (US$/MMBtu)

Zone-I		7.0430
Zone-II		6.5885
Zone-III		6.1342

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

SCHEDULE K: SUPPLEMENTAL AGREEMENT FOR LOW BTU GAS (2013 PCA'S)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR LOW BTU GAS FIELDS

[Note 1 – All Article numbers referred to herein should be verified against the PCA actually being amended.]

[Note 2 – In the event this is the second or third supplemental agreement incorporating one of the Policies, references herein may need to be specifically tailored to accommodate any earlier amendment.]

SUPPLEMENTAL AGREEMENT TO THE

[●] PETROLEUM CONCESSION AGREEMENT

(BLOCK [●])(ZONE [●])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [●] day of [●] 201[●] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. [ABC, a company incorporated under the laws of [●], having an office at [●] ("**ABC**");]

3. [XYZ, a company incorporated under the laws of [●], having an office at [●] ("**XYZ**");]

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");] and

5. [PROVINCIAL HOLDING COMPANY, a company incorporated under the laws of Pakistan, having its registered office at [●] ("**PHC**")]

the PRESIDENT, [ABC, XYZ, GHPL and PHC] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[90]:

a) On [●] the President granted to [ABC and XYZ][91], the Petroleum Exploration Licence No. [●] in respect of Block No. [●]. Simultaneous with the grant of the said Licence, the same parties executed the [●] Petroleum Concession Agreement ("**PCA**", which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Low BTU Gas Pricing Policy, 2012 that offers certain incentives.

[90] Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.
[91] Amend to reflect original Working Interest Owners.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Low Btu Gas Pricing Policy are received by the Working Interest Owners.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Parties intend that only those provisions in Part IV-A of the Rules relating to Low BTU Gas shall apply to the PCA and any Licence or Lease, notwithstanding Articles 30.5 and 30.6. For the avoidance of doubt, any provisions relating to Tight Gas or Marginal Fields in the said Part IV-A shall not so apply.

4. This Supplemental Agreement shall be effective from the date first above mentioned[92].

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 In Article 1.46, the words "Low BTU Gas Policy" shall be replaced with the word "Rules".

5.3 Article 1.47 shall be replaced as follows: ""Low BTU Field" shall be as defined in the Rules".

5.4 In Article 1.63, being the definition of the "Rules", prior to the word "including" shall be inserted the following: "as amended to [●] *[insert day the 2013 Rules are amended]*".

5.5 Article 6.15 shall be replaced with the following:

> "In the case of a Discovery of Low BTU Gas the Working Interest Owners shall be allowed additional periods of renewals and/or extensions, as provided in the Rules."

[92] In exceptional circumstances the Government may consider some retrospectivity.

5.6 Article 10.2(g) shall have the references to "Low BTU Gas" and Low BTU Policy" deleted and a new Article 10.2(h) shall be inserted as follows:

"Whenever a Working Interest Owner is selling pipeline quality Natural Gas of acceptable specification to the Government or its nominated buyer, from a Low BTU Gas Field, it shall receive a price set out below, using the following procedure:

a. Immediately prior to the processing facility the Low BTU Gas shall be measured using, *inter alia*, an online gas chromatograph, at which point the calorific value of such gas shall be recorded.

b. Based on such recorded value the price shall be fixed at US$6 per MMBTU for 450[93] BTU/SCF plus US$0.01 per MMBTU for each BTU/SCF reduction below 450BTU/SCF, to a limit of 175BTU/SCF. The maximum price at 175BTU/SCF shall be US$8.75/MMBTU.

c. By way of example, if Low BTU Gas entering the processing facility was 395BTU/SCF, price would be US$6.55 per MMBTU.

d. The Operator shall submit to the authority concerned the aforementioned formula for price determination every six months, which shall be notified in the official Gazette.[94]

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President of the Islamic Republic of Pakistan	For and on behalf of ABC
________________________	________________________
Print Name: Title: NIC:	Print Name: Title: NIC:
Witnesses:	Witnesses:
1. __________________ Name:	1. __________________ Name:

[93] The Low BTU Policy also says that the $6 price will apply to 450-600btu/scf gas, but definition itself doesn't allow that.
[94] To confirm if the Govt will notify every six months.

CNIC:

2. ____________________
Name:
CNIC:

For and on behalf of XYZ

____
Print Name:
Title:
CNIC:

Witnesses:

1. ______________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

CNIC:

2. ______________________
Name:
CNIC:

For and on behalf of Government Holdings (Pvt) Ltd.

____
Print Name:
Title:
CNIC:

Witnesses:

1. _______________________
Name:
CNIC:

2. _______________________
Name:
CNIC:

For and on behalf of [Provincial Holding Company]

____
Print Name:
Title:
CNIC:

Witnesses:

1. ______________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

SCHEDULE L: SUPPLEMENTAL AGREEMENT FOR MARGINAL FIELDS (2013-PCA)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR MARGINAL FIELDS

[Note 1 - All Article numbers referred to herein should be verified against the PCA actually being amended.]

[Note 2 – In the event this is the second or third supplemental agreement incorporating one of the Policies, references herein may need to be specifically tailored to accommodate any earlier amendment.]

SUPPLEMENTAL AGREEMENT TO THE

[●] PETROLEUM CONCESSION AGREEMENT

(BLOCK [●])(ZONE [●])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [●] day of [●] 201[●] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. [ABC, a company incorporated under the laws of [●], having an office at [●] ("**ABC**");]

3. [XYZ, a company incorporated under the laws of [●], having an office at [●] ("**XYZ**");]

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");] and

5. [PROVINCIAL HOLDING COMPANY, a company incorporated under the laws of Pakistan, having its registered office at [●] ("**PHC**")]

the PRESIDENT, [ABC, XYZ, GHPL and PHC] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[95]:

a) On [●] the President granted to [ABC and XYZ][96], the Petroleum Exploration Licence No. [●] in respect of Block No. [●]. Simultaneous with the grant of the said Licence, the same parties executed the [●] Petroleum Concession Agreement ("**PCA**"), which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines, 2013 that offers certain incentives.

[95] Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.
[96] Amend to reflect original Working Interest Owners.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines are received by the Working Interest Owners.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Working Interest Owners intend that only the provisions of Part IV-A of the Rules relating to Marginal Fields shall apply to the PCA and any Licence or Lease, notwithstanding Articles 30.5 and 30.6. For the avoidance of doubt any provisions relating to Tight Gas or Low BTU Gas in the said Part IV-A shall not so apply.

4. This Supplemental Agreement shall be effective from the date first above mentioned[97].

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 In Article 1.63, being the definition of the "Rules", prior to the word "including" shall be inserted the following: "as amended to [●] *[insert day the 2013 Rules are amended]*".

5.3 An additional sub-article shall be inserted at the end of Article 6, which shall read as follows:

> "In the case of a Marginal Field, the Working Interest Owners shall be allowed additional periods of renewals and/or extensions, as provided in the Rules."

5.4 A new sub-article10.2(h) shall be inserted as follows:

> "(a) For sales of Natural Gas from a Marginal Field, sub-article (f) shall apply with the formula replaced as follows:
>
> "**Pg = (Pm*Dz/Cf) + US$0.25/MMBTU**".

[97] In exceptional circumstances the Government may consider some retrospectivity.

(b) Illustration of the workings of gas price determination for gas produced from Marginal Fields is at Annex [●]."

5.5 Schedule I, hereto, shall be inserted at the end of the annexures to the PCA, as Annex [●].

5.6 In Article 10.4(ii),

(a) in the paragraph at the end, after the words "Article 10.2(g)" insert "or gas from a Marginal Field, Article 10.2(h)"; and

(b) the following shall be inserted as a new paragraph at the end:

"To the extent of sales of Natural Gas from a Marginal Field, where the price is in excess of US$8 per MMBTU, the formula above shall be replaced with "WLG = 0.5 x (PG – 8) x V".

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President
of the Islamic Republic of Pakistan

____

Print Name:
Title:
NIC:

Witnesses:

1. ______________________
Name:
CNIC:

2. ______________________
Name:
CNIC:

For and on behalf of
ABC

____

Print Name:
Title:
NIC:

Witnesses:

1. ______________________
Name:
CNIC:

2. ______________________
Name:
CNIC:

For and on behalf of XYZ

____

For and on behalf of Government
Holdings (Pvt) Ltd.

____

Print Name:
Title:
CNIC:

Witnesses:

1 ____________________
Name:
CNIC:

2 ___________________
Name:
CNIC:

Print Name:
Title:
CNIC:

Witnesses:

1. _____________________
Name:
CNIC:

2. _____________________
Name:
CNIC:

For and on behalf of [Provincial Holding Company]

____

Print Name:
Title:
CNIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ___________________
Name:
CNIC:

Schedule I

Annex [•]

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF MARGINAL/STRANDED GAS PRICING GUIDELINES

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Floor Price (C & F)	10.0000
	Ceiling Price (C & F)	110.0000

B. Apply sliding scale discounts to C&F crude oil price after floor & up to ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
0 to 30	100%	=30.0000 (A)
Above 30 to 50	Plus 50% of incremental increase	= 10.0000 (B)
Above 50 to 70	Plus 30% of incremental increase	= 6.0000 (C)
Above 70 to 110	Plus 20% of incremental increase	= 8.0000 (D)
Marker Price (A+B+C+D)		54.0000

C. Marker Price X respective Zonal discount

Zone-I	69.66% of Marker Price	37.6164
Zone-II	66.5% of Markerrice	35.9100
Zone-III	63.33% of Marker Price	34.1982

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		6.5993
Zone-II		6.3000
Zone-III		5.9997

F. Marginal/Stranded Field Gas Price = Zone wise gas price + US$0.25/MMBtu (US$/MMBtu)

Zone-I		6.8493
Zone-II		6.5500
Zone-III		6.2497

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

SCHEDULE M: SUPPLEMENTAL AGREEMENT FOR TIGHT GAS (PRE-2013 PCA'S)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR TIGHT GAS FIELDS

[Note1 - unless Government allows otherwise, this Supplemental Agreement may not be executed if parties have executed a supplemental agreement to convert to the 2012 Policy, in relation to a particular petroleum right.]

[Note 2 – All Article numbers referred to herein should be verified against the PCA actually being amended.]

[Note 3 – In the event this is the second or third supplemental agreement incorporating one of the Policies, references herein may need to be specifically tailored to accommodate any earlier amendment.]

SUPPLEMENTAL AGREEMENT TO THE

[•] PETROLEUM CONCESSION AGREEMENT

(BLOCK [•])(ZONE [•])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [•] day of [•] 201[•] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. ABC, a company incorporated under the laws of [•], having an office at [•] ("**ABC**");

3. XYZ, a company incorporated under the laws of [•], having an office at [•] ("**XYZ**"); and

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");][98]

the PRESIDENT, [ABC, XYZ and GHPL] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[99]:

a) On [•] the President granted to [ABC, XYZ and GHPL][100], the Petroleum Exploration Licence No. [•] in respect of Block No. [•]. Simultaneous with the grant of the said Licence, the same parties executed the [•] Petroleum Concession Agreement ("**PCA**", which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Tight Gas (Exploration and Production) Policy, 2011that offers certain incentives.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Tight Gas (Exploration and Production) Policy are received by the Working Interest Owners.

---

[98] Less likely to be a party if PCA between 2001 and 2009.

[99] Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.

[100] Amend to reflect original Working Interest Owners. GHPL less likely to have been a party if PCA between 2001 and 2009.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Parties intend that only those provisions of Part IV-A of the Rules relating to Tight Gas shall apply to the PCA and any Licence or Lease, notwithstanding Articles 30.5 and 30.6. For the avoidance of doubt, any provisions relating to Low BTU Gas or Marginal Fields in the said Part IV-A shall not so apply.

4. This Supplemental Agreement shall be effective from the date first above mentioned[101].

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 [In Article 1.58, being the definition of the "Rules", prior to the word "including" shall be inserted the following: "as amended to [●] *[insert day the 2013 Rules are amended]*".][102]

[or][In the sub-article defining the "Rules", replace the words "Effective Date" with [●] *[insert day the 2013 Rules are amended]*.][103]

5.3 [In Article 6.1, after the word "Months" shall be inserted ", or six (6) Months, if the Working Interest Owners are of the opinion it may be a Discovery of Tight Gas,".][104]

[or][In Article 6.1, after the second use of the word "Rules", shall be inserted ", or, if the Working Interest Owners are of the opinion it may be a Discovery of Tight Gas, six (6) Months from the date of termination of drilling and testing of the respective Exploration Well,".][105]

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[101] In exceptional circumstances the Government may consider some retrospectivity.
[102] Use if amending 2009-Model PCA.
[103] Use if amending pre 2009-Model PCA.
[104] Use if amending 2001-Model PCA or 2009-Model PCA.
[105] Use if amending 1994-Model PCA.

5.4 In Article 6.4, after the word "Months" shall be inserted ", or eight (8) Months in the case of a Discovery of Tight Gas,".

5.5 A new Article [10.2(f)(a)(1)][106] shall be inserted as follows:

"(A) For the sale of Natural Gas from a Tight Gas Field, the pricing mechanism provided in Annex [●] shall apply, except such price shall not apply to any Natural Gas produced from a well, even if in a Tight Gas Field, which has an effective permeability of more than 1.0 milliDarcy. As part of the information provided under rule [48][107], detailed permeability data will be provided which the Authority may require to be certified by a Certified Consultant. Any certification may be re-done by the Working Interest Owners but any change in price shall not have retrospective effect."

(B) Illustration workings of the Tight Gas price determination is at Annex [●].

5.6 Schedule I, hereto shall be inserted at the end of the annexures to the PCA as new Annex [●].

6. Transitional

(a) In the event a Discovery is in the process of Appraisal on the date hereof the Appraisal Programme may be amended as necessary to appraise the Discovery as a possible Tight Gas Field. In such a case, the time for appraisal may also be extended, such as to get required certification.

(b) In the event of a Discovery not having been declared a Commercial Discovery and not in the process of Appraisal on the date hereof, if the Working Interest Owners consider it may be Commercial Discovery as a Tight Gas Field, the Working Interest Owners may appraise the Discovery Area under Article 6.3. The Appraisal Programme[108] shall be submitted within six months of the date hereof or the period referred to in Article 6.3, whichever is later. In the event appraisal has already been undertaken by the Working Interest Owners for such Discovery Area, the time allowed for further appraisal shall be limited to the time for necessary certification.

(c) For the avoidance of doubt any further time given for Appraisal under clauses (a) and (b) above shall not extend the term of a petroleum right.

[106] Replace with 10.1(iv)(1)(a) for 1994-PCA and 10.2(f)(1)(a) for 2001 PCA.
[107] Replace with rule 45 if 2001 or 1994-PCA.
[108] If amending a 1994 Model PCA, the terms "Appraisal" and "Appraisal Programme" need not be capitalized, unless defined therein.

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President
of the Islamic Republic of Pakistan

____
Print Name:
Title:
NIC:

Witnesses:

1. _____________________
Name:
CNIC:

2. _____________________
Name:
CNIC:

For and on behalf of
ABC

____
Print Name:
Title:
NIC:

Witnesses:

1. _____________________
Name:
CNIC:

2. _____________________
Name:
CNIC:

For and on behalf of XYZ

____
Print Name:
Title:
CNIC:

Witnesses:

1 _____________________
Name:
CNIC:

2 _____________________
Name:
CNIC:

For and on behalf of Government
Holdings (Pvt) Ltd.

____
Print Name:
Title:
CNIC:

Witnesses:

1. _____________________
Name:
CNIC:

2. _____________________
Name:
CNIC:

Schedule I

Annex [•] of the PCA

Pricing for Tight Gas

The price of pipeline quality Natural Gas from a Tight Gas Field shall be computed and notified in United States Dollars per MMBTU according to the following formula:

Pg = (Pm * Dz / Cf) *140%

Where,

"**Pg**" is the gas price in USD per MMBTU.

"**Pm**" is the Applicable Marker Price in USD per barrel determined as follows:

- If RCP is USD20/barrel or below, Pm equals RCP.
- If RCP is higher than USD20/barrel and not over USD 30/barrel, Pm equals 20 plus 50% of the incremental RCP above USD20/barrel;
- If RCP is higher than USD 30/barrel and not over USD 40/barrel, Pm equals 25 plus 30% of the incremental RCP above USD 30/barrel;
- If RCP is higher than USD40/barrel and not over USD 70/barrel, Pm equals 28 plus 20% of the incremental RCP above USD 40/barrel;
- If RCP is higher than USD 70/barrel and not over USD 100/barrel, Pm equals 34 plus 10% of the incremental RCP above USD 70/barrel;
- If the RCP is above USD100/barrel, Pm equals 37.
- The said ceiling of USD 100/barrel would be reviewed as and when the pricing dynamics significantly change in the international market.

"**Reference Crude Price**" or "**RCP**" means the weighted average C&F price (FOB price plus freight on AFRA basis) of the basket of Arabian/Persian crude oils imported into Pakistan during the first six months periods of the seventh months immediately preceding the relevant Price Notification Period as published in an internationally recognized publication acceptable to the Parties. C&F Price will be arrived at on the basis of FOB price of Arabian/Persian crude oils imported into Pakistan plus freight on AFRA, which is deemed chartered rates.

"**Dz**" is the zonal index which shall have the value of 67.5% for Zone III; 72.5% for Zone II, 77.5% for Zone I.

"**Cf**" is the Applicable Conversion Factor, the weighted average of the heating values expressed in MMBTU per barrel for the basket of Arabian/Persian Gulf Crude Oils imported in Pakistan.

Schedule II

(Annex [•] of the PCA)

WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF TIGHT GAS POLICY

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Ceiling Price (C & F)	100.0000

B. Apply sliding scale discounts to C&F crude oil price after floor and up to ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
Up to 20	100%	=20.0000 (A)
Above 20 to 30	Plus 50% of incremental increase	= 5.0000 (B)
Above 30 to 40	Plus 30% of incremental increase	=3.0000 (C)
Above 40 to 70	Plus 20% of incremental increase	= 6.0000 (D)
Above 70 to 100	Plus 10% of incremental increase	= 3.0000 (E)
Marker Price	(A+B+C+D+E)	37.0000

C. Marker Price X respective Zonal discount

Zone-I	77.5% of Marker Price	28.6750
Zone-II	72.5% of Marker Price	26.8250
Zone-III	67.5% of Marker Price	24.9750

D. Conversion factor * assumed (MM Btu/bbl) 5.7

E. Zone wise gas price in US$/MMBtu

Zone-I		5.0307
Zone-II		4.7061
Zone-III		4.3816

F. Tight Gas Price = Zone wise gas price X 140% (US$/MMBtu)

Zone-I		7.0430
Zone-II		6.5885
Zone-III		6.1342

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.

SCHEDULE N: SUPPLEMENTAL AGREEMENT FOR LOW BTU GAS FIELDS (PRE-2013 PCA'S)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR LOW BTU GAS FIELDS

[Note1 - unless Government allows otherwise, this Supplemental Agreement may not be executed if parties have executed a supplemental agreement to convert to the 2012 Policy, in relation to a particular petroleum right.]

[Note 2 – All Article numbers referred to herein should be verified against the PCA actually being amended.]

[Note 3 – In the event this is the second or third supplemental agreement incorporating one of the Policies, references herein may need to be specifically tailored to accommodate any earlier amendment.]

SUPPLEMENTAL AGREEMENT TO THE

[●] PETROLEUM CONCESSION AGREEMENT

(BLOCK [●])(ZONE [●])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [●] day of [●] 201[●] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. ABC, a company incorporated under the laws of [●], having an office at [●] ("**ABC**");

3. XYZ, a company incorporated under the laws of [●], having an office at [●] ("**XYZ**"); and

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");][109]

the PRESIDENT, [ABC, XYZ and GHPL] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[110]:

a) On [●] the President granted to [ABC, XYZ and GHPL][111], the Petroleum Exploration Licence No. [●] in respect of Block No. [●]. Simultaneous with the grant of the said Licence, the same parties executed the [●] Petroleum Concession Agreement ("**PCA**", which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Low BTU Gas Pricing Policy, 2012 the provisions of which that offers certain incentives.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Low Btu Gas Pricing Policy are received by the Working Interest Owners.

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109 Less likely to be a party if PCA between 2001 and 2009.

110 Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.

111 Amend to reflect original Working Interest Owners. GHPL less likely to be a party if PCA between 2001 and 2009.

NOW THEREFORE the Parties agree as follows:

1 References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2 This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3 By entering into this Supplemental Agreement, the Parties intend that only those provisions of Part IV-A of the Rules relating to Low BTU Gas shall apply to the PCA and any Licence or Lease, notwithstanding Articles 30.5 and 30.6. For the avoidance of doubt, any provisions relating to Tight Gas or Marginal Fields in the said Part IV-A shall not so apply.

4 This Supplemental Agreement shall be effective from the date first above mentioned[112].

5 The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 [In Article 1.58, being the definition of the "Rules", prior to the word "including" shall be inserted the following: "as amended to [●] *[insert day the 2013 Rules are amended]*".][113]

[or][In the sub-article defining the "Rules", replace the words "Effective Date" with [●] *[insert day the 2013 Rules are amended]*.][114]

5.3 An additional sub-article shall be inserted at the end of Article 6, which shall read as follows:

> "In the case of a Discovery of Low BTU Gas the Working Interest Owners shall be allowed additional periods of renewals and/or extensions, as provided in the Rules."

5.4 A new Article [10.2(f)(a)(1)][115] shall be inserted as follows:

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[112] In exceptional circumstances the Government may consider some retrospectivity.
[113] Use if amending 2009-Model PCAs.
[114] Use if amending pre 2009-Model PCAs.
[115] Replace with 10.1(iv)(1)(a) for 1994-Model PCAs and 10.2(f)(1)(a) for 2001-Model PCAs.

"i. For the sale of Natural Gas from a Low BTU Gas Field, the pricing mechanism in Annex [●] shall apply."

5.5 Schedule I, hereto shall be inserted at the end of the annexures to the PCA as new Annex [●].

5.6 [In Article 10.4, the following shall be inserted, at the end:

"The above formula to the extent relating to WLG shall be replaced to the extent of sales from a Low BTU Gas Field, with "WLG = 0.25 x (PG – BR) x V"."][116]

[or][At the end of Article 10.4 the following shall be inserted:

"For the sale of Natural Gas from a Low BTU Gas Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.2(f) above and the actual sale price using the following formula:

WLG = 0.25 x (PG-BR) x V,

where,

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

The "Base Price" will be the price as outlined in Article 10.2(f) for Natural Gas from a Low BTU Field. Where the sale price of such Natural Gas is less or equal to the Base Price, the WLG shall be zero."][117]

[or][After Article 10.1, a new Article 10.1A shall be inserted, as follows:

"For the sale of Natural Gas from a Low BTU Gas Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.1(iv)[118] above and the actual sale price using the following formula:

to the extent of sales from a Low BTU Field, WLG = 0.25 x (PG-BR) x V,

where,

[116] Use if amending 2009-Model PCA.
[117] Use if amending 2001-Model PCA.
[118] This may be checked for earlier PCAs as variations in Article numbers is possible.

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

The "Base Price" will be the price as outlined in Article 10.1(iv) for Natural Gas from a Low BTU Field. Where the sale price of such Natural Gas is less or equal to the Base Price, the WLG shall be zero."][119]

5.7 At the end of Article 23, a new Article 23.6[120] shall be inserted:

"The first tier of production bonus (i.e. "[At the start][121][On Commencement][122] of Commercial Production") will not be payable in the case of production of Low BTU Gas."

6. Transitional

(a) In the event a Discovery is in the process of Appraisal on the date hereof the Appraisal Programme may be amended as necessary to appraise the possible Discovery as a Low BTU Gas Field. In such a case, the time for appraisal may also be extended, such as to get required certification.

(b) In the event of a Discovery not having been declared a Commercial Discovery and not in the process of Appraisal on the date hereof, if the Working Interest Owners consider it may be Commercial Discovery as a Low BTU Gas Field, the Working Interest Owners may appraise the Discovery Area under Article 6.3. The Appraisal Programme[123] shall be submitted within six months of the date hereof or the period referred to in Article 6.3, whichever is later. In the event appraisal has already been undertaken by the Working Interest Owners for such Discovery Area, the time allowed for further appraisal shall be limited to the time for necessary certification.

(c) For the avoidance of doubt any further time given for Appraisal under clauses (a) and (b) above shall not extend the term of a petroleum right.

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President of the Islamic Republic of Pakistan	For and on behalf of ABC

[119] Use if amending 1994-Model PCA.
[120] This may be checked for earlier PCAs as variations in Article numbers is possible.
[121] Use if amending 2009-Model PCA.
[122] Use if amending pre-2009-Model PCA.
[123] If amending a 1994 Model PCA, the terms "Appraisal" and "Appraisal Programme" need not be capitalized, unless defined therein.

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Print Name:
Title:
NIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

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Print Name:
Title:
NIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

For and on behalf of XYZ

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Print Name:
Title:
CNIC:

Witnesses:

1 ____________________
Name:
CNIC:

2 ____________________
Name:
CNIC:

For and on behalf of Government Holdings (Pvt) Ltd.

____
Print Name:
Title:
CNIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

Schedule I

Annex [•] of the PCA

Pricing for Low BTU Gas

Whenever a Working Interest Owner(s) is selling pipeline quality Natural Gas of acceptable specification to the Government or its nominated buyer, from a Low BTU Gas Field, it shall receive a price set out below, using the following procedure:

a. Immediately prior to the processing facility the Low BTU Gas shall be measured using, *inter alia*, an online gas chromatograph, at which point the calorific value of such gas shall be recorded.

b. Based on such recorded value the price shall be fixed at US$6 per MMBTU for 450[124] BTU/SCF plus US$0.01 per MMBTU for each BTU/SCF reduction below 450BTU/SCF, to a limit of 175BTU/SCF. The maximum price at 175BTU/SCF shall be US$8.75/MMBTU.

c. By way of example, if gas entering the processing facility was 395BTU/SCF, price would be US$6.55 per MMBTU.

d. The Operator shall submit to the authority concerned the aforementioned formula for price determination every six months, which shall be notified in the official Gazette.[125]

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[124] The Low BTU Policy also says that the $6 price will apply to 450-600btu/scf gas, but definition itself doesn't allow that.

[125] To confirm if the Govt will notify every six months.

SCHEDULE O: SUPPLEMENTAL AGREEMENT FOR MARGINAL FIELDS (PRE-2013 PCA'S)

SUPPLEMENTAL AGREEMENT

IN RESPECT OF

[•]

PETROLEUM CONCESSION AGREEMENT

BLOCK NO. [•]

(ZONE [•])

PROVISIONS FOR MARGINAL FIELDS

[Note 1 - All Article numbers referred to herein should be verified against the PCA actually being amended.]

[Note 2 – In the event this is the second or third supplemental agreement incorporating one of the Policies, references herein may need to be specifically tailored to accommodate any earlier amendment.]

SUPPLEMENTAL AGREEMENT TO THE

[•] PETROLEUM CONCESSION AGREEMENT

(BLOCK [•])(ZONE [•])

THIS SUPPLEMENTAL AGREEMENT ("**Supplemental Agreement**") is entered into at Islamabad on this [•] day of [•] 201[•] between:

1. THE PRESIDENT OF THE ISLAMIC REPUBLIC OF PAKISTAN which term shall include its successors and assigns ("**PRESIDENT**") through the Ministry of Petroleum & Natural Resources, Government of the Islamic Republic of Pakistan;

2. ABC, a company incorporated under the laws of [•], having an office at [•] ("**ABC**");

3. XYZ, a company incorporated under the laws of [•], having an office at [•] ("**XYZ**"); and

4. [GOVERNMENT HOLDINGS (PRIVATE) LIMITED, a company incorporated under the laws of Pakistan, having its registered office at Pak Secretariat, Block "A", Islamabad, and an office at House No. 17, Street No. 89, G-6/3, Islamabad ("**GHPL**");][126]

the PRESIDENT, [ABC, XYZ and GHPL] hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**", and in each case shall include its successors and assigns.

RECITALS[127]:

a) On [•] the President granted to [ABC, XYZ and GHPL][128], the Petroleum Exploration Licence No. [•] in respect of Block No. [•]. Simultaneous with the grant of the said Licence, the same parties executed the [•] Petroleum Concession Agreement ("**PCA**", which term shall include any amendments or novations which may have been agreed from time to time).

b) The Government of Pakistan notified the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines, 2013 that offer certain incentives.

c) The Working Interest Owners desire to execute this supplemental agreement to amend the PCA so that the incentives in the Marginal/Stranded Gas Fields – Gas Pricing Criteria Guidelines are received by the Working Interest Owners.

[126] Less likely to be a party if PCA between 2001 and 2009.
[127] Recital shall be adjusted to cover all assignments subsequent to the grant by the respective Companies.
[128] Amend to reflect original Working Interest Owners. GHPL less likely to be a party if PCA between 2001 and 2009.

NOW THEREFORE the Parties agree as follows:

1. References herein to a "**Clause**" shall be to a clause of this Supplemental Agreement and an "**Article**" shall be to an Article of the PCA and any term not defined herein shall have the meaning ascribed to it in the PCA.

2. This Supplemental Agreement shall be read and construed as an agreement supplemental to the PCA. Except as provided herein, all provisions of the PCA shall remain unchanged and continue in full force and effect.

3. By entering into this Supplemental Agreement, the Parties intend that only those provisions of Part IV-A of the Rules relating to Marginal Fields shall apply to the PCA and any Licence or Lease, notwithstanding Articles 30.5 and 30.6. For the avoidance of doubt, any provisions relating to Tight Gas or Low BTU Gas in the said Part IV-A shall not so apply.

4. This Supplemental Agreement shall be effective from the date first above mentioned[129].

5. The PCA stands amended as follows:

5.1 At the end of Article I, the following new sub-article shall be inserted:

> "Unless otherwise defined herein, terms defined in the Rules shall have the same meaning herein as therein."

5.2 [In Article 1.58, being the definition of the "Rules", prior to the word "including" shall be inserted the following: "as amended to [•] *[insert day the 2013 Rules are amended]*".][130]

[or][In the sub-article defining the "Rules", replace the words "Effective Date" with [•] *[insert day the 2013 Rules are amended]*.][131]

5.3 An additional sub-article shall be inserted at the end of Article 6, which shall read as follows:

> "In the case of a Marginal Field, the Working Interest Owners shall be allowed additional periods of renewals and/or extensions, as provided in the Rules."

5.4 A new sub-article [10.2(f)(a)(1)][132] shall be inserted as follows:

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[129] In exceptional circumstances the Government may consider some retrospectivity.
[130] Use if amending 2009-Model PCA.
[131] Use if amending pre-2009-Model PCA.
[132] Insert 10.1(iv)(1)(a) for 1994 PCAs or 10.2(f)(1)(a) for 2001 PCAs.

"(i) For the sale of Natural Gas from a Marginal Field, the pricing mechanism provided in Annex [●] shall apply.

(ii) Illustration of workings of the gas price determine for gas produced from Marginal Fields is at Annex [●]."

5.5 Schedules I and II, hereto shall be inserted at the end of the annexures to the PCA as new Annexures [●] and [●].

5.6 [At the end of Article 10.4, preceding the final paragraph, the following shall be inserted as a new paragraph:

"To the extent of sales of Natural Gas from a Marginal Field, the formula above shall be replaced with "WLG = 0.5 x (PG – 8) x V"."][133]

[or][At the end of Article 10.4 the follow shall be inserted:

"For the sale of Natural Gas from a Marginal Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.2(f) above and the actual sale price using the following formula:

WLG = 0.5 x (PG-8) x V

where,

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

The "Base Price" will be the price as outlined in Article 10.2(f) for Natural Gas from a Marginal Field. Where the sale price of such gas is less or equal to the Base Price, the WLG shall be zero."][134]

[or][After Article 10.1, a new Article 10.1A shall be inserted, as follows:

"For the sale of Natural Gas from Marginal Field, to parties other than Government or Provincial Government, a Windfall Levy ("WLG") will be applicable on the difference between the price outlined in Article 10.1(iv)[135] above and the actual sale price using the following formula:

WLG = 0.5 x (PG-8) x V

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[133] Use if amending 2009-Model PCA.
[134] Use if amending 2001-Model PCA.
[135] This may be checked for earlier PCAs as variations in Article numbers is possible.

where,

WLG is Windfall Levy on share of Natural Gas;
PG is Third Party Sale Price of Natural Gas;
BR is Base Price;
V is Volume of gas sold to third party excluding Royalty.

The "Base Price" will be the price as outlined in Article 10.1(iv) on Natural Gas from a Marginal Field. Where the sale price of such gas is less or equal to the Base Price, the WLG shall be zero."][136]

5.6 At the end of Article 23, a new Article 23.6 shall be inserted:

"The first tier of production bonus (i.e. "[At the start][137][On Commencement][138] of Commercial Production") will not be payable in the case of gas from Marginal Fields."

6. Transitional

(a) In the event a Discovery is in the process of Appraisal on the date hereof the Appraisal Programme may be amended as necessary to appraise the Discovery as a possible Marginal Field. In such a case, the time for appraisal may also be extended, such as to get required certification.

(b) In the event of a Discovery not having been declared a Commercial Discovery and not in the process of Appraisal on the date hereof, if the Working Interest Owners consider it may be Commercial Discovery as a Marginal Field, the Working Interest Owners may appraise the Discovery Area under Article 6.3. The Appraisal Programme[139] shall be submitted within six months of the date hereof or the period referred to in Article 6.3, whichever is later. In the event appraisal has already been undertaken by the Working Interest Owners for such Discovery Area, the time allowed for further appraisal shall be limited to the time for necessary certification.

(c) For the avoidance of doubt any further time given for Appraisal under clauses (a) and (b) above shall not extend the term of a petroleum right.

IN WITNESS WHEREOF this Supplemental Agreement has been executed on behalf of each Party hereto on the date first above mentioned.

For and on behalf of the President of the Islamic Republic of Pakistan	For and on behalf of ABC

[136] Use if amending 1994-Model PCA.
[137] Use if amending 2009-Model PCA.
[138] Use if amending pre-2009-Model PCA.
[139] If amending a 1994 Model PCA, the terms "Appraisal" and "Appraisal Programme" need not be capitalized, unless defined therein.

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Print Name:
Title:
NIC:

Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
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Witnesses:

1. ____________________
Name:
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2. ____________________
Name:
CNIC:

For and on behalf of XYZ

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Print Name:
Title:
CNIC:

Witnesses:

1 ____________________
Name:
CNIC:

2 ____________________
Name:
CNIC:

For and on behalf of Government Holdings (Pvt) Ltd.

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Print Name:
Title:
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Witnesses:

1. ____________________
Name:
CNIC:

2. ____________________
Name:
CNIC:

Schedule I

(Annex [•] of the PCA)

Pricing for gas from a Marginal Field

The price of acceptable pipeline quality Natural Gas from a Marginal Field shall be computed and notified in United States Dollars per MMBTU according to the following formula

Pg = (Pm * Dz / Cf) + US$0.25/MMBTU

Where,

"**Pg**" is the gas price in USD per MMBTU.

"**Pm**" is the Applicable Marker Price in USD per barrel determined as follows:

- When RCP is USD10/barrel or below, Pm equals USD10.
- When RCP is higher than USD10/barrel and not over USD 30/barrel, Pm equals RCP;
- When RCP is higher than USD 30/barrel and not over USD 50/barrel, Pm equals 30 plus 50% of the incremental RCP above USD 30/barrel;
- When RCP is higher than USD50/barrel and not over USD 70/barrel, Pm equals 40 plus 30% of the incremental RCP above USD 50/barrel;
- When RCP is higher than USD 70/barrel and not over USD 110/barrel, Pm equals 46 plus 20% of the incremental RCP above USD 70/barrel;
- When the RCP is above USD110/barrel, Pm equals 54.
- The said ceiling of USD 110/barrel would be reviewed as and when the pricing dynamics significantly change in the international market.

"**Reference Crude Price**" or "**RCP**" means the weighted average C&F price (FOB price plus freight on AFRA basis which is a deemed chartered rate) of the basket of Arabian/Persian crude oils imported into Pakistan during the first six months periods of the seventh months immediately preceding the relevant Price Notification Periodas published in an internationally recognized publication acceptable to the Parties.

"**Dz**" is the zonal index which shall have the value of 63.33% for Zone III; 66.5% for Zone II, 69.66% for Zone I.

"**Cf**" is the Applicable Conversion Factor, the weighted average of the heating values expressed in MMBTU per barrel for the basket of Arabian/Persian Gulf Crude Oils imported in Pakistan.

The prices notified would be after rounding the quotient to four decimal places.

Schedule II

Annex [•]

<u>WELL HEAD GAS PRICE ILLUSTRATION AS PER PRICING PROVISIONS OF MARGINAL/STRANDED GAS PRICING GUIDELINES</u>

		$/BBL
A.	Weighted average imported Crude Oil C & F Price (Assumed RCP)	140.0000
	Floor Price (C & F)	10.0000
	Ceiling Price (C & F)	110.0000

B. Apply sliding scale discounts to C&F crude oil price after floor & up to ceiling

US$/BBL	Applicable % of C&F Price	US$/BBL
0 to 30	100%	=30.0000 (A)
Above 30 to 50	Plus 50% of incremental increase	=10.0000 (B)
Above 50 to 70	Plus 30% of incremental increase	= 6.0000 (C)
Above 70 to 110	Plus 20% of incremental increase	= 8.0000 (D)
Marker Price (A+B+C+D)		54.0000

C. Marker Price X respective Zonal discount

Zone-I	69.66% of Marker Price	37.6164
Zone-II	66.5% of Marker Price	35.9100
Zone-III	63.33% of Marker Price	34.1982

D. <u>Conversion factor * assumed (MM Btu/bbl) 5.7</u>

E. Zone wise gas price in US$/MMBtu

Zone-I		6.5993
Zone-II		6.3000
Zone-III		.9997

F. Marginal/Stranded Field Gas Price = Zone wise gas price + US$0.25/MMBtu (US$/MMBtu)

Zone-I		6.8493
Zone-II		6.5500
Zone-III		6.2497

Note:* Weighted average heating value in MMBtu/bbl per type of imported Crude Oil, as applicable during the period.