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1) Managing Director, Sui Northern Gas Pipelines Limited, Lahore.
2) Managing Director, Sui Southern Gas Company Limited, Karachi.
3) Chief Executive Officer, Universal Gas Distribution Company (Pvt.) Limited, Islamabad.
4) Chief Executive Officer, Engro LNG FZE, Karachi.
5) Chief Executive Officer, Punjab Industrial Estate Development & Management Company, Lahore.

Subject: **MODIFICATION IN PAKISTAN GAS NETWORK CODE**

Dear Sir

This is with reference to the proposals for modifications in Pakistan Gas Network Code (the Network Code) submitted by M/s UGDCL vide letter dated 25-04-2025, M/s Tabeer Energy Private Limited vide letter dated 27-05-2025 and M/s Mari Energies Limited vide letter dated 13-06-2025 under Article 21 of the Network Code and the Decision of the Authority dated 03-04-2026 conveyed to the Panel vide OGRA letter No.OGRA-6-(11)-SNGPL(PGNC)/2026 dated 16-04-2026.

2. In this regard, the Authority has considered the updated Network Code submitted by SNGPL vide its letter No. RA-TPA-011-26 dated 04-06-2026 w.r.t modifications in Article 2.4(e), Article 22.1(c), last paragraph of Appendix-E, 2nd paragraph of Clause 1(iv) of Appendix-E and Point No.7 of Appendix-F of the Network Code; and approved the same under Article 21.5(d) thereof. Accordingly, the updated Network Code is enclosed herewith for information/ record and necessary action. Moreover, the same is placed on OGRA website and the transporters are also advised to upload the updated Network Code on their respective websites please.

Yours truly,

(Imran Akhtar)
Senior Executive Director (Gas)
For and on Behalf of the Authority

C.C:

(i). DG (PC), Ministry of Energy (Petroleum Division)
(ii). DG (Gas), Ministry of Energy (Petroleum Division)
(iii). CEO, M/s Pakistan LNG Ltd
(iv). CEO, Mari Energies Limited
(v). The MD, Oil and Gas Development Company Limited
(vi). The MD, Pakistan Petroleum Limited
(vii). The MD/CEO, MOL Pakistan Oil and Gas
(viii). The MD/CEO, Pakistan Oilfields Ltd
(ix). The MD/CEO, United Energy Pakistan Ltd
(x). CEO, Energas Marketing Pvt. Ltd
(xi). CEO, Tabeer Energy Marketing Pvt. Ltd
(xii). CEO, Pakistan GasPort Limited.
(xiii). CEO, Fatimafert Limited
(xiv). CEO, Agritech Limited

Clause	Existing	Approved
2.4 (e)	(a) No capacity below a threshold level of [10 MMCFD] shall be allocated by a transporter to a single shipper on the gas pipeline transportation system and capacity allocation shall be in accordance with Appendix [E].	(a) No capacity below a threshold level of [05 MMCFD] shall be allocated by a transporter to a single shipper on the gas pipeline transportation system and capacity allocation shall be in accordance with Appendix [E]
22.1 (c)	(c)The security deposit should at all times be equivalent to the aggregate of the transportation charges for three (3) billing periods inclusive all of levies and applicable taxes.	(c)The security deposit should at all times be equivalent to the aggregate of the transportation charges for two (02) billing periods (where the billing period constituting 30 days) inclusive all of levies and applicable taxes.
APPENDIX E: CAPACITY ALLOCATION METHODOLOGY (CAM). (IV)-second paragraph	Only supply mains of industrial SMSs (i.e. SMSs with dominant Industrial Sale) will be considered for transportation service in distribution network. Request for transportation service at any specific location will be evaluated by the Transporter on case to case basis, keeping in view the system operational constraints, system integrity, location and time of the year.	Request for transportation service at any specific location will be evaluated by the Transporter on case-to-case basis, keeping in view the system operational constraints, system integrity, location and time of the year. The Transporter may consider request of the Shippers for provision of transportation services at any point in the distribution system, subject to proven technical constraints and the expansion or extension of the gas pipeline transportation system where such expansion is economical or where the Shipper is willing to bear the cost of the required infrastructure.
APPENDIX E: CAPACITY ALLOCATION METHODOLOGY (CAM)	Last Paragraph of Appendix-E No capacity below a threshold level of [10 MMCFD at Entry Point] shall be allocated by the Transporter to a single Shipper on the Gas Pipeline Transportation System.	V) No capacity below a threshold level of 05 MMCFD at Entry Point(s) shall be allocated by the Transporter to a single Shipper on the Gas Pipeline Transportation System." In case of more than one entry points, there shall be minimum capacity threshold of 02 MMCFD per Entry Point, provided that the cumulative threshold of all the entry Points will not be below a threshold level of 05 MMCFD
APPENDIX F: PARTICULARS FOR DECLARING CAPACITY OF GAS PIPELINE TRANSPORTATION SYSTEM BY TRANSPORTER	For Distribution system, capacities to the extent of operationally feasible supply mains will be updated subject to system's operational constraints.	For Distribution system, capacities to the extent of operationally feasible supply mains will be updated.

PAKISTAN
GAS NETWORK CODE

FOR USE OF
GAS PIPELINE
TRANSPORTATION SYSTEM

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Gas Transportation Network Code

SCOPE AND APPLICATION

As part of the gas sector reforms, the Government of Pakistan decided to open up the country's gas market to third parties to promote importation of pipeline gas and liquefied natural gas and facilitate the growth of the national gas sector. The underlying reason behind the reforms is to address the energy shortfall of the country, secure energy supplies for the growing domestic demand and promote economic growth by enhancing competition in the gas market. In furtherance of this objective, the Government, among other things, notified the OGRA Gas (Third Party Access) Rules, 2018 to set the high-level principles for the regulation of access to the gas pipeline transportation systems and shipping of imported gas and related matters.

This Network Code has been developed with the objective of establishing a uniform, contractual framework for the third-party access arrangements in the country and the use of gas pipeline transportation systems so as to:

(a) promote the development of a competitive gas market by applying uniform principles to the relevant parties;
(b) ensure fair, transparent and non-discriminatory practices in all transactions concerning the use of the gas pipeline transportation systems;
(c) prevent abuse of dominance and any potential anti-competitive conduct; and
(d) ensure the safe and reliable supply of gas, and integrity of the gas pipeline transportation system.

This Network Code shall apply to the following parties:

(a) Gas transmission licensees;
(b) Gas distribution licensees;
(c) Gas sale and system use licensees; and
(d) Connected system operators.

The parties identified above shall enter into an appropriate commercial agreement which will substantially be in the form given in Appendix A to this Network Code. The agreement will contractually bind the parties to the standard provisions of this Code and shall be approved by the Authority in each case.

ARTICLE 1. DEFINITIONS AND INTERPRETATION

1.1 In this Code, unless there is anything repugnant in the subject or context,-

"**Access arrangement**" or "**access agreement**" means an agreement between a transporter and shipper for the transportation of gas by utilizing capacity of gas transportation system as approved by the Authority.

"**Affiliate**" means, in relation to a Party, a company, corporation or other entity:

a) that is directly or indirectly controlled by such Party; or
b) that directly or indirectly controls such Party; or
c) that is directly or indirectly controlled by a company, corporation or other entity that also directly or indirectly controls such Party.

For the purposes of this definition, "**control**" means the right to exercise the vote of more than fifty (50) percent of all the voting shares.

"**Allocation agreement**" means an agreement between the relevant parties governing allocation of gas quantities at a System Point where more than one shippers are active.

"**Annual Maintenance Schedules**" means the annual report required under the OGRA Gas (Third Party Access) Rules 2018 detailing the maintenance plans of the transporter.

"**Authority**" means the Oil and Gas Regulatory Authority, established under section 3 of the Oil and Gas Regulatory Authority Ordinance, 2002 (XVII of 2002).

"**Available capacity**" means such capacity that is not contracted by or in the use of transporter and is still available in the gas pipeline transportation system at the time of capacity declaration by the transporter;

"**Balancing charge**" means a charge arising as a result of the operation of the daily discipline or monthly reconciliation processes and may comprise either a payment or a charge.

"**Balancing period**" means the period over which a shipper's net delivery to or withdrawal from the gas pipeline transportation system is measured to determine the shipper imbalance quantity.

"**Btu**" means the amount of heat required to raise the temperature of one pound of water from fifty-nine degree Fahrenheit (59°F) to sixty degree Fahrenheit (60°F).

"**Business day**" means any day other than a Saturday and Sunday or a public holiday on which scheduled banks in Pakistan are generally open for business.

"**Capacity**" means the maximum transportation capacity per day of an entry point or exit point on the gas pipeline transportation system taking into account the system integrity, operational requirements, location and time of the year.

"**Capacity allocation**" means the maximum daily quantity in MMSCF of gas allocated by a transporter to a shipper which can be received at a certain entry point and delivered at a certain exit point and, as and when necessary arrangements have been made by the transporter in this regard, the capacity allocation will be made in MMBTU terms.

"**Capacity allocation methodology**" means the methodology given in Appendix E which shall be used by the transporter to calculate and allocate capacity.

"**Capacity hoarding**" occurs when a shipper books entry and or exit capacity but fails to use it effectively thereby preventing the use of such capacity by another shipper.

"**Capacity overrun**" occurs when a shipper flows gas in excess of its contracted capacity at that entry point or exit point on a day.

"**Capacity overrun percentage**" means the capacity overrun quantity expressed as a percentage of the contracted capacity.

"**Capacity overrun quantity**" means the amount by which the metered quantity recorded at a system point exceeds the shipper's contracted capacity at that system point.

"**Capacity transfer**" is the process by which all the rights and responsibilities for a stated amount of capacity at a stated system point is transferred from one shipper to another shipper for one or more specified balancing periods, as approved by the Authority.

"**Claims**" means any and all claims, liens, judgments, penalties, awards, remedies, debts, liabilities, damages, demands, costs, losses, expenses or causes of action of whatever nature including without limitation those made or enjoyed by dependents, heirs, claimants, executors, administrators, successors, survivors, or assigns, reasonable legal costs and sums paid by way of settlement or compromise.

"**Connect**" means the undertaking of the works necessary to enable gas to be conveyed through a transmission system to distribution system or from one pipeline system to another pipeline system and may include the laying of the extension of any pipeline system and reinforcement or modification required to be made to a pipeline system as a result thereof and "connection" shall be construed accordingly.

"**Connected system**" means a gas transmission or distribution system or a natural gas production facility or an LNG terminal or a gas storage facility that is interconnected with a transporter's gas pipeline transportation system.

"**Connected system agreement**" means an agreement between the transporter and the connected system operator upstream of an entry point setting out operational, commercial and other technical issues relating to the operation at the entry point.

"**Connected system operator**" means the operator of a connected system.

"**Consequential Losses**" means the loss or deferment of profit or anticipated revenue, income or earnings or savings (including any losses incurred under or in connection with any agreements between the shipper and third parties including under any LNG sale and purchase

agreement or any sale agreements between the shipper and Retail Consumers), loss of goodwill, loss of use, business interruption, increased cost of working and wasted effort or expenditure or any special, indirect or consequential damage.

"**Contracted capacity**" means the capacity that a transporter has already committed to a shipper at the time of capacity declaration.

"**Day**" means a period of 24 continuous hours, commencing at 00:00 midnight PST on the first day and ending at 00:00 midnight PST on the next day.

"**Daily**" shall refer to a period of one Day.

"**Dispute**" means any dispute or difference arising between the parties to the access arrangement or the interconnection and operation arrangement;

"**Distribution**" means the activity of transporting natural gas through pipelines and associated facilities at a pressure which would not ordinarily be expected to exceed 300 PSIG, except in the case of large industrial consumers on the distribution system which may be provided a higher pressure, or such pressure as the Authority may prescribe from time to time but does not include gathering lines situated wholly within the boundaries of an area to which petroleum rights apply.

"**Distribution exit capacity**" means the contractual right to withdraw gas from a distribution system exit point.

"**Distribution Network**" means the portion of the distribution system used by an individual distribution licensee from time to time for undertaking the distribution of natural gas for a shipper or retail consumer or wholesale customer.

"**Distribution Shrinkage Multiplier**" means the amount by which aggregate Shipper Withdrawal Quantities at distribution system exit points will be increased to account for shrinkage on the Distribution System.

"**Distribution system**" means the pipeline and associated facilities and equipment used by a licensee from time to time for undertaking the distribution of natural gas for a shipper or retail consumer or Wholesale customer.

"**Distribution system exit point**" means the point on the Distribution System where Gas can be withdrawn from both the Distribution System and the gas pipeline transportation system.

"**Effective Date**" has the meaning given to that term in the access agreement.

"**Entry point**" means the flange downstream of the meter at which the gas delivered by a shipper or connected system operator is injected into the gas pipeline transportation system of the transporter or into the interconnection pipeline of the connected system operator, whichever is applicable.

"**Emergency**" means an incident under which the safety of the gas pipeline transportation system is significantly at risk; the safe transportation of gas by the gas pipeline transportation

system is significantly at risk; gas transported by the gas pipeline transportation system is at such a pressure or of such a quality as to constitute, when supplied to premises, a danger to life or property; or any other circumstance reasonably believed by the transporter to constitute an emergency.

"**Emergency steps**" means actions taken by the transporter or a shipper to avert or reduce the probability of an emergency.

"**Exit point**" means the flange downstream of the meter at which the gas is withdrawn from the gas pipeline transportation system of the transporter.

"**Exit point register**" means a register of all exit points, which will be owned and maintained by the Transporter, assigning a unique identifier to each and recording details of the measurement systems used.

"**Final nomination**" the last nomination submitted by a shipper, and accepted by the transporter, prior to [1200] hrs on the day preceding the balancing period for a quantity of gas to be delivered to an entry point and withdrawn from an exit point during the balancing period.

"**Financial year**" means a period of twelve (12) months commencing on July 1st of each year and ending on June 30th of the following year.

"**Firm service**" means the transportation service provided on uninterruptible basis and as agreed in the access arrangement.

"**Force majeure**" has the meaning ascribed thereto in Article 19.

"**Gas**" means natural gas and includes RLNG

"**Gas entry conditions**" means limits or other requirements as to the composition, pressure, temperature of gas delivered or tendered for delivery to the gas pipeline transportation system at a specified entry point.

"**Gas exit conditions**" means limits or other requirements as to the composition, pressure, temperature of gas withdrawn or tendered for withdrawal from the gas pipeline transportation system at a specified exit point.

"**Gas measurement procedures**" means procedures and information relating to, *inter alia*, (i) the metering and analytical equipment to be installed by the Measuring Parties to measure the quantity and determine the quality of the Specification Gas delivered at the Entry Point and the System Gas at the Exit Points where possible; (ii) the correction of errors in measurements; (iii) the operation, maintenance, calibration and checking the calibration of measuring and analytical equipment; (iv) the computation of the volumes of Specification Gas; (v) the measurement/estimation of Specification Gas delivered to the shipper in case the meter installed at the Exit Points malfunctions and/or has been deliberately tampered with to acquire unmetered gas and/or in the case meter has been by passed; and (vi) notification of Specification Gas deliveries by the shipper to the transporter and by the transporter to the shipper.

"**Gas pipeline transportation system**" or "**system**" means transmission system, distribution system, pipelines, spur pipelines, equipment, compressors and associated facilities downstream of a gas producer's processing plant, shipper's delivery point or re-gasification terminal which are used for transportation of gas from one point to another, but shall not include the gas processing plant and re-gasification terminal pipeline within the battery limit of isolation valves of the plant or terminal.

"**Gas specifications**" means the minimum gas specifications set out in Appendix-C hereto or as otherwise provided in the access arrangement.

"**Government**" means the Government of the Islamic Republic of Pakistan.

"**Interconnection and operation arrangement**" means the agreement entered into between one transporter and any other transporters or connected system operator for the purposes of interconnecting two systems and arranging the operational relations between such systems.

"**Interruptible service**" means the transportation service provided as and when and where the capacity is available in the gas pipeline transportation system on reasonable endeavor basis and as agreed in the access arrangement.

"**Line pack (LP)**" means the volume of gas in the gas pipeline transportation system at a certain point of time at a measured gas specification, temperature and pressure.

"**LNG**" means liquefied natural gas.

"**Load management**" means the implementation of prudent demand-side management initiatives and actions by the transporter to reduce peak load and/or improve system operating efficiency.

"**Margins gas**" means gas bought or sold by the Transporter to effect physical balance of the gas pipeline transportation system.

"**Measuring party**" has the meaning given in Article 10.1.

"**Metered delivery quantity**" means the quantity of gas in MMCF and MMBTU delivered to the gas pipeline transportation system at an entry point, whether metered or estimated.

"**Metered withdrawal quantity**" means the quantity of gas in MMCF and MMBTU withdrawn from the gas pipeline transportation system at an exit point, whether metered or estimated.

"**MMBTU**" means 1,000,000 BTU.

"**MMSCF**" means one million SCF, and "MMSCFD" means one million SCF per Day.

"**Modification**" means a change to the Code.

"**Month**" means a calendar month beginning at 00:00 midnight PST on the first day of a month and ending at 00:00 midnight PST on the first day of the next following month provided that

the first Month shall commence on the Effective Date and shall end at 00:00 midnight PST on the first of the calendar month immediately following.

"**Natural gas**" means hydrocarbons, or mixture of hydrocarbons and other gases which at sixty degrees Fahrenheit and atmospheric pressure are in gaseous state (including gas from gas wells, gas produced with crude oil and residue gas and products resulting from processing of gas) consisting primarily of methane, together with any other substance produced with such hydrocarbons and where the context so requires includes Specification Gas, off-specification gas and System Gas.

"**Network code**" or "**Code**" is the common set of standard conditions governing access arrangement between transporter and shipper contained herein which shall include processes such as capacity declaration, capacity allocation, capacity hoarding, nomination, balancing of gas pipeline transportation system, network planning, metering, gas transportation tariff structure, invoicing and payment, force majeure, emergencies, load management and curtailment, communication, planned maintenance, operational planning and other operational matters, as approved by the Authority, and which shall bind the transporter not to discriminate as between similarly situated persons or classes of persons in the exercise of its rights or in the performance of its obligations;

"Neutral market price" means a neutral wholesale market price that shall be used for in the energy balancing and monthly reconciliation cash-out charges.

"**Nomination**" means a notification process between a shipper and a transporter to schedule the shipper's daily, weekly, monthly, half-yearly and yearly delivery and off-take quantities relating to each entry point and exit point, as agreed in the access arrangement.

"**Off-specification gas**" means Gas received at the Entry Point that does not meet the Gas Specifications, as explained in Article 11.

"**Operating schedule**" means the quantity of gas scheduled for delivery by the shipper to each entry point and the quantity of gas scheduled for withdrawal by the shipper at each exit point during the Balancing Period.

"**Panel**" or "**Code Modification Panel**" means the committee assembled to consider modifications and undertake such other functions in relation to modifications to the code.

"**Party**" means a transporter, shipper or connected system operator who has entered into an access arrangement or interconnection and operation arrangement under TPA rules and includes any user of the gas pipeline transportation system.

"**Person**" means any individual, corporation, company, association, partnership, joint venture, trust, organization, authority, committee, department, or any body, incorporated or unincorporated, whether or not having distinct legal personality.

"**Psia**" means pounds per square inch absolute.

"**Psig**" means pounds per square inch gauge.

"**Reconciliation of gas**" means Monthly reconciliation of natural gas, in energy terms, showing natural gas received at the entry point, used by the transporter as SUG, adjustment on account of TL and LP, delivery at the exit point(s) and any excess quantity delivered to the shipper or any balance undelivered natural gas of the shipper left with the transporter.

"**Re-gasified Liquefied Natural Gas"** or **"RLNG**" means natural gas obtained after gasification of LNG.

"**Relevant Objectives**" means the set of criteria against which a proposed modification should be measured.

"**Renomination**" means a nomination which revises and replaces a previous nomination.

"**Renomination window**" means, during the balancing period, a period of time during which a shipper will be entitled to submit a renomination.

"Retail consumer" means any person who purchases or receives gas for consumption and not for delivery or resale, other than resale for vehicular use. ;

"**SCF**" means the volume of Gas required to fill a one cubic foot space at a pressure of 14.65 Psia and at a temperature of 60° Fahrenheit.

"**Scheduling charges**" mean charges that may be payable by the shipper on differences between day-ahead nominations and final allocated quantities.

"**Scheduling tolerance**" means a quantity of gas which is [ten percent (10%)] more or less than the quantity of gas properly nominated or renominated (as the case may be) by a shipper at a system point.

"**Shipper**" means a person holding a valid license issued by the Authority for transmission, distribution or sale of gas through Access Arrangement for transportation of gas by utilizing capacity of gas pipeline transportation system above such thresholds as may be specified in the Network Code;

"**Shipper cumulative imbalance quantity**" means the sum of the shipper imbalance quantity over all days in the current calendar month adjusted for any previous intermediate reconciliations during that month.

"**Shipper delivery quantity**" means a shipper's share of the metered delivery quantity recorded at that entry point taking into account any allocation agreements.

"**Shipper imbalance quantity**" means the difference between the sum of the shipper's delivery quantities for all entry points and the sum of the shipper's withdrawal quantity for all exit points adjusted for shrinkage and determined on a daily basis.

"**Shipper withdrawal quantity**" means a shipper's share of the metered withdrawal quantity recorded at that exit point taking into account any allocation agreements.

"**Specification gas**" means RLNG or natural gas meeting the gas specifications being provided to the transporter at the entry point.

"**SUG**" means the quantity of gas used by the transporter for operation of and maintenance attributable to the gas pipeline transportation system related to the access arrangement as approved by the Authority.

"**System Expansion Plan**" means the annual report required under the OGRA Gas (Third Party Access) Rules, 2018 detailing the expansion and reinforcement plans of the transporter.

"**Supply pressure**" means the pressure at which the natural gas transported under an access arrangement is to be delivered at the exit points as set out in the gas exit conditions.

"**System**" means the transmission system or distribution system.

"**System gas**" means the natural gas delivered by the transporter to the shipper at an exit point.

"**System integrity**" means any situation in respect of a gas pipeline transportation system in which the pressure and the quality of natural gas remains within the minimum and maximum limits laid down by the transporter so that the transportation of gas is guaranteed in accordance with the applicable technical standards.

"**System Point**" means a point on the system where natural gas is made available by a shipper for injection; natural gas is made available by the transporter for withdrawal; or a point of interconnection between the gas pipeline transportation system and a connected system or the transmission system and a distribution system.

"**Tariff**" means the tariff referred to in Article 25.

"**Tier 1**" means those customers currently supplied with indigenous gas.

"**Tier 2**" means those customers currently supplied with imported gas.

"**Transferee Shipper**" means a shipper receiving some or all of the contracted capacity of another shipper.

"**Transferor Shipper**" means a shipper transferring some or all of its contracted capacity to another shipper.

"**Transferred capacity**" is the capacity which is (or is to be) transferred, subject to a capacity transfer process.

"**Transfer period**" is the balancing period(s) for which the transferred capacity is (or is to be) transferred.

"**Transmission**" means the activity of transporting natural gas through pipelines and other facilities at a pressure of not less than 300 PSIG or such pressure as the Authority may prescribe from time to time except through pipelines situated wholly within the boundaries of an area to which petroleum rights apply and are owned or operated by the holder of petroleum right.

"**Transmission Distribution Point**" means a point at which natural gas can flow out of the transmission system and into a distribution system but not out of the gas pipeline transportation system.

"**Transmission entry capacity**" means the contractual right to tender gas for delivery to a Transmission System Entry Point for the purposes of injecting it into the Transmission System.

"**Transmission exit capacity**" means the contractual right to withdraw gas from a Transmission Exit Point.

"**Transmission Shrinkage Multiplier**" means the amount by which aggregate shipper withdrawal quantities at transmission exit points and distribution system exit points will be increased to account for shrinkage on the transmission system.

"**Transmission system**" means the pipeline and associated facilities and equipment used by the licensee from time to time for undertaking the transmission of natural gas from an entry point to exit point.

"**Transmission system entry point**" means the point on the gas pipeline transportation system where gas can be injected into the transmission system on behalf of the shipper holding entry capacity.

"**Transmission system exit point**" means the point on the transmission system where natural gas can be withdrawn from both the transmission system and the gas pipeline transportation system.

"**Transportation Loss**" or "**TL**" means the quantity of gas which is unaccounted for by a reasonable and prudent operator including but not limited to measurement uncertainty, theft, ruptures, leakages, blow downs, venting or releases during regular operation and maintenance of the gas pipeline transportation system, as agreed in the access arrangement and in accordance with the latest determination thereof by the Authority for the transporter.

"**Transportation Tariff and Commodity Deposit**" has the meaning given in Article 22.

"**Transporter**" means a person holding a valid license issued by the Authority for construction and operation of pipeline for transmission, distribution or sale of gas through a gas pipeline transportation system.

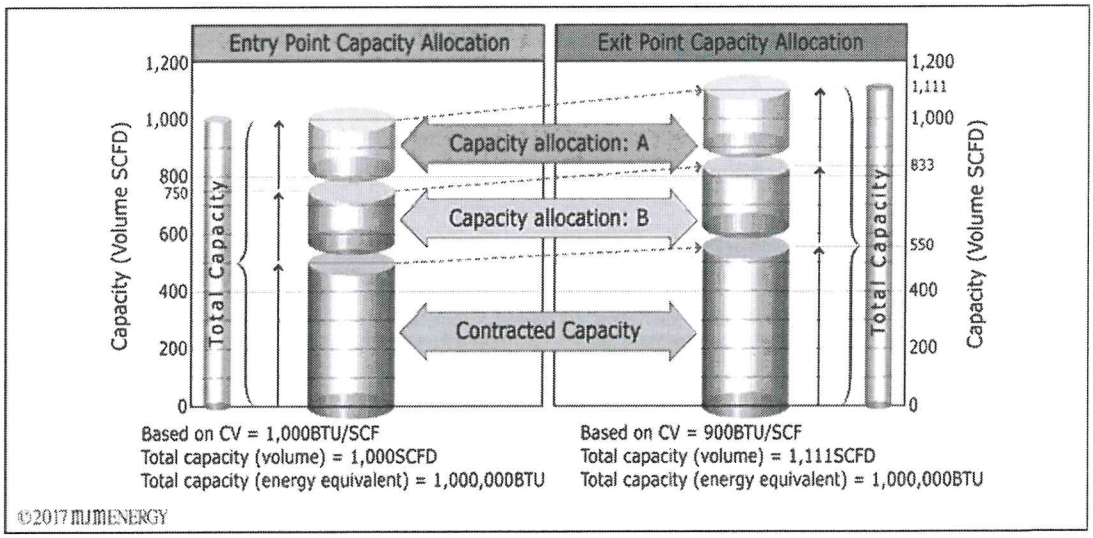
"**Wholesale customer**" means any person who purchases or receives gas for supply or resale to another person.

"**Year**" means a period from a Day in one calendar year to the same calendar Day in the next or the prior calendar year, as applicable.

1.2 The graphs and figures used in this Code are for illustrative purposes and do not affect, control or limit the scope and application of the operative provisions of this Code.

1.3 All the words and expressions used but not defined in this code shall have the same meanings as assigned to them in the Ordinance and Rules made hereunder.

Figure 1 – Schematic explaining capacity booking by volume and energy equivalence



2.1 Transportation Obligation

(a) In consideration of tariff payable by the shipper the transporter shall take delivery of the specification gas made available to it by the shipper at an entry point, up to the maximum of the shipper's contracted capacity at that entry point, transport all the specification gas through the system and deliver the energy equivalent quantity of system gas subject to adjustment for SUG, TL and LP quantities in accordance with the terms of the network code to relevant exit points designated by the Shipper , up to the maximum of the shipper's contracted capacity at each relevant exit point. The transporter shall use its reasonable endeavours to effect delivery at the exit points in accordance with the nominations of the shipper under Article 7.

(b) The transportation services provided by the transporter shall consist of firm services, interruptible services and other services approved by the Authority from time to time, where:

(i) Firm services are the transporter's obligation to transport gas as required and on an uninterruptible basis. Curtailment of firm services by the transporter is only permitted in case of emergency and force majeure (as set out in Article 14) and agreement with the hierarchy of curtailment set out in the applicable policy of the Government. In the case of any curtailment of pipeline capacity, the Transporter must treat the Shippers equally, fairly and reasonably.

(ii) Interruptible services are the transportation service provided as and when and where the capacity is available in the gas pipeline transportation system on reasonable endeavours basis and as agreed in the access arrangement, and which are offered at the transporter's discretion.

(c) Subject to the terms of this network code, custody of (but not the title to) the gas shall pass from the shipper to the transporter at the entry point while the custody of the system gas shall pass back from the transporter to the shipper at the exit points.

(d) The transporter and the shipper acknowledge that gas delivered by the shipper to the transporter at the entry point will be co-mingled with, and as a consequence indistinguishable from, other gas already in the system.

2.2 Capacity Provision

(a) Capacity shall consist of:

(i) Transmission entry capacity;
(ii) Transmission exit capacity;
(iii) Distribution entry capacity; and
(iv) Distribution exit capacity.

(b) Each form of capacity listed in clause 2.2(a) may exist as firm or interruptible capacity.

(c) Capacity shall be defined as a volume delivered over a day in MMSCF and the hourly implied delivery volume shall equal one twenty fourth of the daily capacity.

(d) The level of firm capacity to be made available by the transporter at each transmission entry point and transmission exit point will be determined in accordance with the capacity allocation methodology given in Appendix [E].

(e) The level of firm capacity to be made available by the transporter at each distribution system entry point and distribution system exit point will be determined in accordance with the capacity allocation methodology given in Appendix [E].

(f) The transporter shall, at its discretion, provide interruptible capacity at any transmission entry point or transmission exit point in addition to the firm capacity as determined in above.

(g) The transporter shall, at its discretion, provide interruptible capacity at any distribution system entry point or distribution system exit point in addition to the firm capacity as determined in above.

(h) The transporter shall publish on its website, and report to the Authority, not later than five (5) days prior to the expiry of each calendar month, the level of available capacity as well as supplemental information as listed in the "Form For Declaring Capacity Of Gas Pipeline Transportation System By Transporter" provided in Appendix F.

2.3 Capacity Allocation Methodology

(a) The transporter will fully adhere to the capacity allocation methodology given in Appendix [E] to determine the available capacity at entry and exit points.

(b) The capacity allocation methodology shall comply with the standards of a reasonable and prudent operator and shall take into account such matters as:

(i) the amount of line pack required in the system;
(ii) minimum offtake pressures required by shippers at exit points;
(iii) minimum delivery pressures at entry points; and
(iv) flow rate scenarios on the gas pipeline transportation system.

2.4 Capacity Application and Allocation

(a) The shipper may apply for firm and/or interruptible capacity at relevant entry points and exit points. The capacity application shall include the following information:

(i) The identity of the shipper;
(ii) The entry point and exit point where the shipper wishes to hold such capacity;
(iii) The proposed capacity start date, the proposed capacity end date and the capacity duration, which shall be for a period of not less than one (1) year for the firm capacity and not more than [six (6) months] for the interruptible capacity (or such other period as may be approved by the Authority);
(iv) The amount of the capacity applied for (expressed in MMSCF); and
(v) Whether the capacity requested is firm or interruptible.

(b) The transporter may:

(i) Reject an application which does not comply with the requirements of the network code, or where the requested capacity is greater than the amount of relevant available capacity during the proposed capacity duration, and specify the reasons thereof; or
(ii) Approve an application, which does comply with the requirements of the network code, and where the requested capacity is less than or equal to the relevant available capacity.

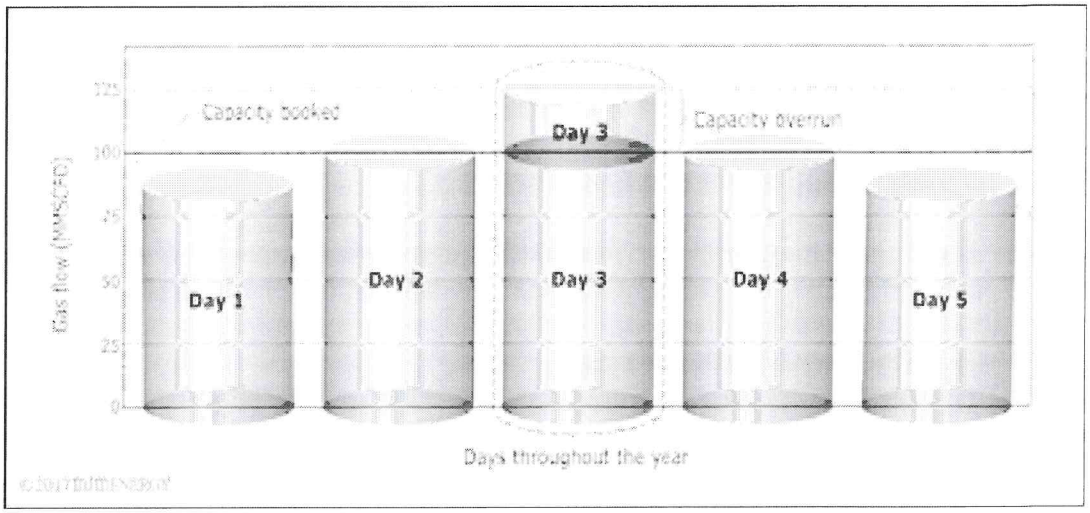
(c) The transporter will, within [fourteen (14)] business days of receipt of the application, notify the shipper in writing whether the application has been approved or not, and if it has been approved, register the shipper as holding capacity in relation to the relevant entry point and exit point in the amount and for the capacity duration applied for by the shipper in the capacity register with effect from the date of approval and, if the application has not been approved, specify the reasons thereof.

(d) The transporter shall consider applications and shall allocate capacity to the shipper(s) at each entry point and exit point on a first-come-first-served basis, and shall report each capacity allocation to the authority within seven (7) days of the allocation.

(e) No capacity below a threshold level of 05 MMCFD shall be allocated by a transporter to a single shipper on the Gas Pipeline Transportation System and capacity allocation shall be carried out in accordance with Appendix E.

2.5 Capacity Overruns

Figure 2 – Schematic showing principle of capacity overruns



(a) Capacity overruns shall occur when a shipper flows gas in excess of its contracted capacity at that entry point or exit point on a day.

(b) The capacity overrun quantity for a shipper at any entry point or exit point shall be calculated as that shipper's total daily quantity at that system point minus the shipper's contracted capacity at that system point. The capacity overrun percentage shall be calculated as the capacity overrun quantity as a percentage of the contracted capacity.

(c) The shipper shall pay capacity overrun charges for any days when that shipper overruns capacity at any system point, based on the following table.

Table 1 – Summary of overrun charges for differing tolerances		
Overrun Tolerance (OT)	Winter overrun charges for December. January and February	Overrun charges for other months in the year
OT ≤ 10%	[3] x Daily Capacity Charge]	[2] x Daily Capacity Charge]
10%>OT≤20%	[6] x Daily Capacity Charge]	[4] x Daily Capacity Charge]
OT>20%	[9] x Daily Capacity Charge]	[6] x Daily Capacity Charge]

(i) Where the capacity overrun percentage is equal to or less than 10% the shipper shall pay a capacity overrun charge of the capacity overrun quantity multiplied by [two (2)] times the daily capacity charge unless it is during the winter months of December, January and February in which case the shipper shall pay a capacity overrun charge of the capacity overrun quantity multiplied by [three (3)] times the daily capacity charge

(ii) Where the capacity overrun percentage is greater than 10% but is equal to or less than 20% the shipper shall pay a capacity overrun charge of the capacity overrun quantity multiplied by [four (4)] times the daily capacity charge unless it is during the winter months of December, January and February in which case the shipper

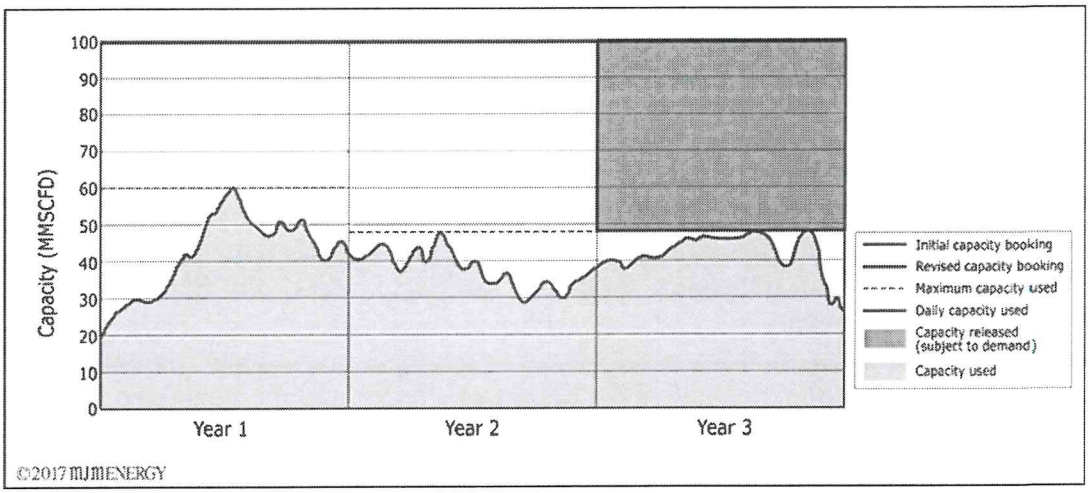
shall pay a capacity overrun charge of the capacity overrun quantity multiplied by [six (6)] times the daily capacity charge.

(iii) Where the capacity overrun percentage is greater than 20% the shipper shall pay a capacity overrun charge of the capacity overrun quantity multiplied by [six (6)] times the daily capacity charge unless during the winter months of December, January and February in which case the shipper shall pay a capacity overrun charge of the capacity overrun quantity multiplied by [nine (9)] times the daily capacity charge

(d) If sufficient firm capacity is available at the system point, the shipper may, subject to the transporter's approval, avoid capacity overrun charges by purchasing additional firm capacity up to the capacity overrun quantity, backdated to the start of the gas day in which the overrun occurred for the remainder of the capacity duration.

2.6 Capacity Hoarding

Figure 3 – Schematic of capacity hoarding



(a) The transporter shall, after notifying the shipper, be permitted to utilise on a daily basis all or any part of the capacity booked by a shipper to the extent that the capacity is not being used by such shipper, provided however that nothing herein shall, or shall be deemed to, restrict or in any way affect the right of a shipper to utilise capacity it has reserved on the day.

(b) If a shipper does not use at least fifty (50) percent of its contracted capacity in any year starting from the date of the access agreement, except in the case of force majeure, the transporter may serve a written notice of [one (1)] month on such shipper to cancel the unutilized portion of the shipper's contracted capacity. Except where such shipper is able to demonstrate to the transporter's reasonable satisfaction, having due regard to all circumstances, that such non-utilisation does not cause the effects given below, the unutilized portion of the contracted capacity shall be cancelled with effect from the expiry of the notice period:

(i) Such non-utilisation to be prejudicial to the economic integrity of the gas pipeline transportation system or any localised part thereof.

(ii) Such non-utilisation prevents another shipper from fully utilising that capacity on firm basis.

2.7 Capacity Transfers (Permanent)

(a) A shipper (the "transferor shipper") may permanently transfer all or part of its capacity to another shipper (the "transferee shipper") subject to and in accordance with this clause and approval of the Authority given in Schedule III of OGRA Gas(Third Party Access) Rules 2018.

(b) Where a shipper proposes to make a permanent capacity transfer, each of the transferor shipper and the transferee shipper must notify the transporter of the proposed capacity transfer specifying:

(i) The identity of the transferor shipper and the transferee shipper;
(ii) The amount of the capacity proposed to be transferred;
(iii) The relevant Entry point(s) and Exit point(s)..

(c) No capacity shall be transferred less than one (1) calendar month before the first specified balancing period.

(d) The transporter may reject a permanent capacity transfer:

(i) Where the transferor shipper does not hold the relevant capacity; or
(ii) Where the transferee shipper is unable to satisfy the transporter's credit cover requirements.

(e) The transporter will notify the transferor shipper and the transferee shipper whether a proposed capacity transfer has been accepted or rejected within ten (10) days of the submission of the capacity transfer request.

(f) After the transporter has accepted the capacity transfer, the transferee shipper shall obtain the Authority's approval and, on such approval, the transferee shipper becomes responsible for all tariff payments and rights and liabilities of the transferor shipper to the transporter related to the transferred capacity.

(g) No shipper shall transfer any part of its capacity on a permanent basis during the period of two (2) years, starting from the date of access arrangement approved by the Authority.

2.8 Capacity Transfers (Temporary)

(a) A shipper (the "transferor shipper") may temporarily transfer all or part of its capacity to another shipper (the "transferee shipper") subject to and in accordance with this clause and approval of the Authority given in Schedule III of OGRA Gas(Third Party Access) Rules 2018.

(b) A shipper may temporarily transfer capacity for one or more specified balancing periods subject to the maximum period of six (6) months in a year.

(c) Where a shipper proposes to make a capacity transfer on a temporary basis, each of the transferor shipper and the transferee shipper must notify the transporter of the proposed capacity transfer specifying:

(i) The identity of the transferor shipper and the transferee shipper;
(ii) The amount of the capacity proposed to be transferred;
(iii) and / The relevant Entry point(s) and Exit point(s).; and
(iv) The transfer period.

(d) No capacity shall be transferred less than one (1) calendar month before the first specified balancing period.

(e) The transporter may reject a capacity transfer:

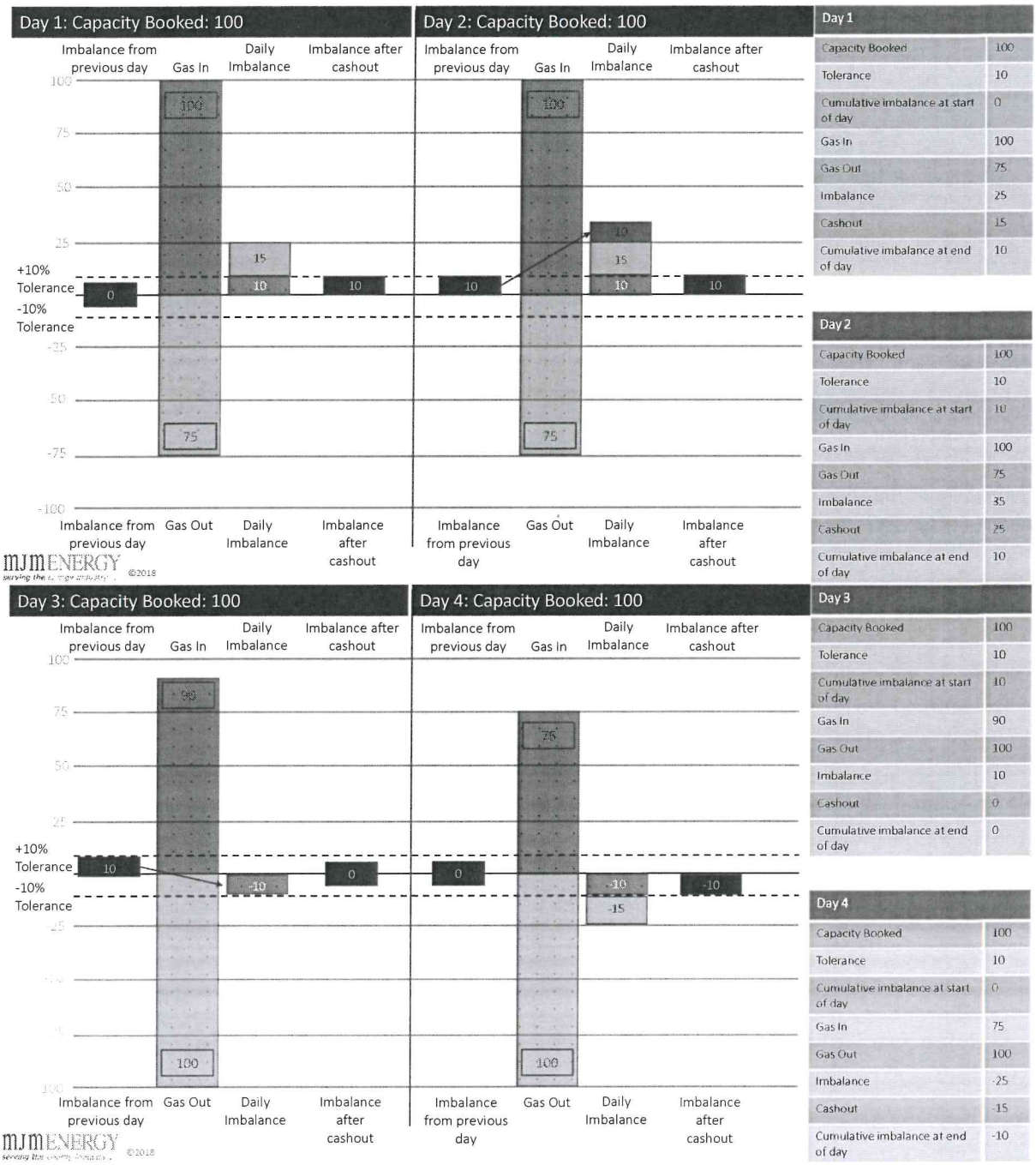
(i) Where the transferor shipper does not hold the relevant capacity for all of the balancing periods specified; or
(ii) Where the transferee shipper is unable to satisfy the transporter's credit cover requirements.

(f) The transporter will notify the transferor shipper and the transferee shipper whether a proposed capacity transfer has been accepted or rejected within ten (10) days of the submission of the capacity transfer request.

(g) After the transporter has accepted the capacity transfer, the transferee shipper becomes responsible for all tariff payments related to the transferred capacity for the transfer period.

ARTICLE 3. BALANCING

Figure 4 – Schematic explanation of monthly balancing with daily discipline



3.1 General

(a) The gas delivered to the entry point will be withdrawn at various exit points of the shipper and for determining the quantity of gas delivered and / or left with the transporter at a certain point of time, a reconciliation of gas will be carried out.

(b) To fulfil the aforementioned requirement and to enable the parties to ascertain the quantity of gas received at the entry point, SUG, TL and system gas delivered at each exit point and the balance quantity of gas left and / or excess delivered a daily or bi-weekly and monthly or shorter period of reconciliation of gas showing daily details will be carried out by the transporter as per this Article.

(c) Unless there is any manifest error in the reconciliation of gas, the quantities shown in it will be final.

3.2 Balancing Responsibilities

(a) The transporter shall be responsible for ensuring the physical balance of the gas pipeline transportation system.

(b) The shipper shall be financially and operationally responsible for balancing its deliveries at the entry point and withdrawals at/from the exit points periodically. The shipper shall be liable to pay for any excess deliveries or withdrawals in accordance with this Article.

3.3 Quantities

(a) The metered delivery quantity at an entry point will be the quantity of gas in MMBTU delivered to the gas pipeline transportation system at that entry point determined in accordance with Article 10.

(b) The metered withdrawal quantity at an exit point will be the quantity of gas in MMBTU withdrawn from the gas pipeline transportation system at that exit point determined in accordance with Article 10.

(c) The shipper delivery quantity at an entry point will be a shipper's share of the metered delivery quantity recorded at that entry point taking into account any allocation agreements as determined under Article 9 and the further provisions of this Article.

(d) The shipper withdrawal quantity at an exit point will be a shipper's share of the metered withdrawal quantity recorded at that exit point taking into account any allocation agreements as determined under Article 9 and the further provisions of this Article.

(e) The shipper imbalance quantity will be the difference between the sum of the shipper's delivery quantities for all entry points and the sum of the shipper's withdrawal quantity for all exit points adjusted for shrinkage and determined on a daily basis.

3.4 Default Shipper Delivery Quantity

(a) Where only one shipper is registered at an entry point, the shipper delivery quantity shall equal the metered delivery quantity.

(b) Where more than one shippers are registered at an entry point then their shipper delivery quantity will be determined in accordance with any allocation agreement as determined by Article 9.

(c) Where no allocation agreement is in place at an entry point, the shipper delivery quantity for that entry point will be determined pro rata to the final nominations, adjusted by any accepted renominations and margins gas usage, submitted by all shippers registered at that entry point.

3.5 Default Shipper Withdrawal Quantity

(a) Where only one shipper is registered at a transmission exit point or a distribution exit point serving a Tier 2 retail consumer, the shipper withdrawal quantity shall equal the metered delivery quantity.

(b) Where more than one shippers are registered at an exit point serving Tier 2 customers then their shipper withdrawal quantity will be determined in accordance with any allocation agreement as determined by Article 9.

(c) Where no allocation agreement is in place at an exit point serving a Tier 2 retail consumer, the shipper withdrawal quantity for that exit point will be determined pro rata to the final nominations, adjusted by any accepted renominations, submitted by all shippers registered at that exit point.

(d) A metered delivery quantity will be determined in aggregate for all those exit points serving Tier 1 retail consumers connected to distribution system exit points in a distribution network, in accordance with the following mechanism:

(i) the quantity delivered to the distribution network will be the sum of the quantities delivered through the relevant transmission distribution points and any other relevant system point.

(ii) the quantity withdrawn from the distribution network will be the sum of the quantities withdrawn through metered distribution system exit points serving Tier 2 retail consumers adjusted for shrinkage and any other withdrawals from the system at any other relevant system points.

(iii) The consumption of all Tier 1 retail consumers registered in a distribution network will be determined in aggregate as the difference between the quantities of gas delivered to the distribution network and those withdrawn from the distribution network.

3.6 Margins Gas

(a) To ensure that the transporter is able to meet its responsibilities to maintain physical balance there may be a periodic tender for margins gas and the transporter may enter into one or more margins gas contracts.

(b) Where physical balance cannot be maintained by managing the nominations of shippers, the transporter may purchase or sell gas in accordance with the margins gas contracts that it holds.

(c) The transporter will publish a guidance document setting out the principles that it will follow when taking action to ensure the physical balance of the network.

(d) On any day where the transporter buys or sells gas from a shipper under a margins gas contract, the relevant shipper imbalance quantity will be amended to ensure that the reconciliation calculations are unaffected by the provision of margins gas.

3.7 Daily Discipline

(a) Where the quantity of gas left with, or borrowed from, the transporter exceeds an agreed tolerance, the shipper will be subject to an intermediate reconciliation at an imbalance price for the quantity that exceeds the tolerance band.

(b) For a shipper, the quantity of gas left with or borrowed from the transporter, the shipper cumulative imbalance quantity, will be determined as the sum of the shipper imbalance quantity over all days in the current calendar month adjusted for any previous intermediate reconciliations in respect of that month.

(c) Where the shipper's cumulative imbalance quantity is positive in a day, and the absolute value for each such day exceeds [5%] of its total booked entry capacity expressed in energy terms during the winter months of December, January or February or [10%] on other months during the year the imbalance charges will be determined, for the days where cumulative imbalance quantity is greater than tolerance limit, as follows and shall be payable by the transporter to the shipper:

(i) During the winter months of December, January and February the imbalance charge shall be the cumulative imbalance quantity as positive number less [5%] of the shippers booked entry capacity expressed in energy terms multiplied by [80%] of the neutral market price.

(ii) During the summer months of March to November inclusive, the imbalance charge shall be the cumulative imbalance quantity as positive number less [10%] of the shippers booked entry capacity expressed in energy terms multiplied by [80%] of the neutral market price.

(d) Where the shipper's cumulative imbalance quantity is negative during some or all of the days of in a month, and the absolute value for each such day is greater than [5%] of its total booked entry capacity expressed in energy terms during the winter months of December, January or February or [10%] on other months during the year the imbalance charges will be determined, for the days where cumulative imbalance quantity is greater than tolerance limit, as follows and shall be payable by the shipper to the transporter:

(i) During the winter months of December, January and February the imbalance charge shall be the cumulative imbalance quantity less [5%] of the shippers booked entry capacity expressed in energy terms multiplied by [120%] of the neutral market price.

(ii) During the summer months of March to November inclusive, the imbalance charge shall be the cumulative imbalance quantity less [10%] of the shippers booked entry capacity expressed in energy terms multiplied by [120%] of the neutral market price

(e) Charges due under daily discipline shall be classed as balancing charges.

3.8 Monthly Reconciliation

(a) In case the shipper has withdrawn more system gas than it has offered to the transporter for transportation at the entry point in any month, then the differential amount, adjusted for any intermediate reconciliations, will be considered as sales to the shipper at [a neutral market price] and payment for the same shall be made by the shipper to the transporter in accordance with the provisions of Article 18.

(b) Likewise, in case the shipper has withdrawn less system gas than it has offered to the Transporter for transportation at the Entry Point in any Month, then the differential amount, adjusted for any intermediate reconciliations, would be considered as sales to the transporter at a [neutral market price] and payment for the same shall be made by the transporter to the shipper in accordance with the provisions of Article 18.

(c) For the avoidance of doubt, the daily discipline calculation will be performed before the Monthly Reconciliation.

(d) Charges due under monthly reconciliation shall be classed as balancing charges.

3.9 Audit

(a) At the end of the gas year, the transporter will ensure that an independent audit of its balancing activity is carried out in a timely fashion.

3.10 The neutral market price

(a) The transporter will prepare and keep under review a technical methodology for determining one or more neutral market prices for approval by the Authority.

(b) On an annual basis the transporter will prepare the neutral market price statement setting out one or more neutral market prices for use in calculations performed under the network code.

(c) For the avoidance of doubt a neutral market price may be an absolute figure in Rupees or refer to an algorithm under which the prevailing neutral price can be quickly and easily determined.

(d) The statement will be provided to the Authority for approval in a timely fashion.

(e) For the purposes of the Code the methodology should take account of but not be limited by:

(i) Notified Prices published by the Authority;

(ii) The proportions of gas from different sources that may be expected to be delivered to the transportation system; and

(iii) National or International indices of fuels such as natural gas, LNG or fuel oils.

ARTICLE 4. SHRINKAGE

4.1 General

(a) The operation of the gas pipeline transportation system in a safe and efficient manner requires quantities of gas to be delivered at the entry point(s) in addition to that offtaken by the shipper at exit point(s) in accordance with the provisions of this network code. This additional gas will be termed shrinkage gas and includes system use gas (SUG) and transportation losses (TL).

(b) A shipper's withdrawal quantities will be adjusted to account for shrinkage gas requirements in accordance with the following procedure:

(i) The metered data at transmission exit points will be increased by the transmission shrinkage multiplier to determine shipper withdrawal quantities for settlement purposes.

(ii) The metered data at distribution system exit points will be increased by the transmission shrinkage multiplier plus the relevant distribution shrinkage multiplier to determine shipper withdrawal quantities for settlement purposes.

(c) For the avoidance of doubt, a shipper will need to deliver more gas to the entry point than is metered for delivery at its exit points to remain balanced.

(d) On an annual basis, the transporters will apply the transmission shrinkage multiplier and the distribution shrinkage multiplier in accordance with the latest determination thereof by the Authority for each system and these multipliers will be published on the transporter's website.

(e) The transporter shall keep full and accurate records of the quantity of gas used as shrinkage gas in each month and, subject to relevant confidentiality provisions, shall present a report annually to OGRA detailing SUG and TL recorded in each gas pipeline transportation system.

(f) In the case of a dedicated pipeline, the shipper shall provide the required volume of gas for the LP and which shall be recoverable by the shipper, in kind or monetary terms, as agreed in the access arrangement.

(g) The transporter shall be responsible for the line pack of its gas pipeline transportation system, however, transporter may purchase the additional gas for line pack, if required from the shipper and the same may qualify for capitalization at the time of finalization of revenue requirement of the transporter..

ARTICLE 5. ENTRY POINTS

5.1 System Points

(a) The system may contain the entry point(s) as set out below:

(i) Transmission system entry point.
(ii) Transmission distribution point.

(b) The transporter shall establish a register of all the entry points assigning a unique identifier to each and recording details of the measurement systems used.

5.2 Connected Systems Agreement

(a) A shipper shall not deliver gas to the gas pipeline transportation system at an entry point unless a connected system agreement between the transporter, shipper and a connected system operator of the system upstream of the gas pipeline transportation system is in place and which shall contain specific provisions applicable in respect of such entry point.

(b) The existence of a connected system agreement shall not relieve the shippers or the transporter of any obligations under the network code.

5.3 System Entry Provisions

(a) Where required, any particular system entry provisions, relevant to the specified entry point, will be set out in detail in the access agreement and will:

(i) Identify the connected system and connected system operator (by name and location); and
(ii) Specify for that entry point the gas entry conditions and gas measurements procedures.

(b) A copy of the system entry provisions will be made available to any shipper tendering gas for delivery at that entry point.

5.4 Shipper's Gas Deliveries

(a) Where on a day more than one shippers deliver gas or tender gas for delivery to the gas pipeline transportation system at an entry point then, subject to any allocation agreement set out in Article 9, the gas delivered, or tendered for delivery, at each entry point at any time on such day shall be treated as delivered, or tendered for delivery, by each shipper in proportion to such shipper's nominated quantities.

(b) The shipper shall tender gas for delivery at the entry point conforming to the Gas Specifications and the gas entry conditions set out in the connected system agreement at such entry point.

(c) The shipper shall use its best endeavours to ensure that gas is delivered or tendered for delivery to an Entry Point at a flow rate equivalent to one twenty fourth of the daily contracted capacity per hour.

(d) Where gas is tendered for delivery to the gas pipeline transportation system at an entry point that does not conform to the gas specifications and the gas entry conditions set out in the connected system agreement at such entry point, the transporter may, from time to time until such time as the relevant gas entry conditions and gas specifications are complied with in respect of gas tendered for delivery at such point, in its discretion either:

(i) Refuse to accept delivery or continued delivery of such gas or any part thereof; or
(ii) Accept delivery of all or part of such gas having first confirmed that at the exit points the shippers will accept the resulting comingled gas that may be off specification gas; or
(iii) Take any steps available to it to limit the rate at which said gas is delivered to the gas pipeline transportation system or to secure that such gas is not so delivered .

(e) The transporter shall have no obligation to accept off-specification gas from the shipper.

5.5 Entry Restrictions

(a) Subject to the provisions of the network code, the transporter will be relieved of its obligation to accept all or part of the specification gas tendered for delivery at an entry point to the extent that, by reason of an emergency, maintenance or an event of force majeure, the transporter is either unable to accept delivery of the specification gas tendered by the shippers for delivery or its ability to do so is impaired, provided that the transporter shall use its reasonable efforts not to reject specification gas at the entry points.

ARTICLE 6. EXIT POINTS

6.1 System Points

(a) The system may contain a number of different exit points as set out below:

(i) Distribution system exit point;
(ii) Transmission system exit point; and
(iii) Transmission distribution point.

(b) The transporter shall register all the exit points covered in this Article in the exit point register by assigning a unique identifier to each and recording details of the measurement systems used.

(c) Nothing in the network code confers on any person any entitlement to have any premises, pipeline, plant or other installation connected to the gas pipeline transportation system for the purposes of withdrawing system gas from the gas pipeline transportation system.

(d) Capacity must be booked at each exit point and a shipper shall not be entitled to withdraw system gas from the system until the shipper is registered as holding capacity at that exit point in accordance with Article 2.

6.2 System Exit Provisions

(a) Where required, any particular system exit provisions, relevant to the specified exit point, will be set out in detail in the access agreement and will specify for that exit point gas exit conditions and gas measurement procedures.

(b) Unless otherwise specified, metering and measurement shall be carried out in accordance with Article 10.

(c) A copy of the system exit provisions will be made available to any shipper wishing to accept gas for delivery at that exit point.

6.3 Transporter's Entitlements

(a) Nothing in the network code shall prevent the transporter from exercising any entitlement or discharging any duty under the transporter's licence issued by the Authority or the applicable law which may involve the disconnection of, or refusal to transport gas to, or to allow gas to be transported to, any premises.

(b) Where pursuant to the transporter's licence or applicable law, the transporter is not required to connect or to maintain a connection, or has exercised or is entitled to exercise any right to disconnect, or is required to disconnect, any premises, or (having disconnected them) is not required to re-connect any premises, or is entitled to refuse to transport specification gas to or to allow specification gas to be transported to any premises, the transporter shall not be in breach of its obligation to deliver specification gas to the relevant exit point(s).

(c) The transporter shall inform the shipper at an exit point as soon as reasonably practicable after exercising an entitlement (as described in clause 6.4(a) above) along with the reasons to disconnect or refuse to transport specification gas or allow specification gas to be transported.

6.4 Non-Acceptance of Specification Gas by the Shipper

(a) If the shipper is unable to accept specification gas delivered by the transporter to the exit points then, provided that such specification gas has already been brought into the system in accordance with the terms of the network code and the shipper has not advised/notified the transporter of its inability in advance of the transporter taking the specification gas into its system, then transporter shall not be liable to deliver such specification gas or its equivalent to the shipper and shall be under no obligation to reimburse the shipper for such specification gas; however, the transporter shall use its best endeavours, up to a period of six months, to provide such specification gas on an as and when and where available basis under the network code.

(b) Where off specification gas is made available for withdrawal at an exit point as the result of the transporter's decision to accept off specification gas at an entry point pursuant to paragraph 5.4 (d)(ii)and which has been accepted by a shipper, then no shipper shall have right to refuse to accept the gas delivered to the exit point(s).

6.5 Withdrawal of System Gas from the Gas Pipeline Transportation System

(a) For the avoidance of doubt, a shipper's obligation to pay transportation charges shall not be affected by the existence of any circumstances under which, in accordance with the network code, the transporter is not obliged to, or is not in breach of, its obligation to deliver specification gas to an exit point.

(b) The shippers will indemnify the transporter against all claims, charges, demands and payments due or arising downstream of an exit point in respect of any person (including itself and any customers) withdrawing directly or indirectly gas from the gas pipeline transportation system at an exit point subject to Article 11 and access arrangement.

6.6 Exit Restrictions

(a) In the event of a drop of the system's line pack to such a lower limit, due to any reason whatsoever, that the smooth and proper operation of transporter's compressor units does not remain possible or by reason of an emergency, system's operational constraints or an event of force majeure beyond the control of the transporter, the transporter shall not be obliged to transport gas provided that transporter shall use its reasonable efforts not to refuse to deliver gas to the exit points.

(b) In any day, a shipper shall, subject to the renomination provisions and Article 14, be entitled to withdraw such quantities as it shall have delivered to the gas pipeline transportation system.

(c) Where in the transporter's opinion the system integrity of the gas pipeline transportation system is prejudiced, or where the service to other shippers is likely to be adversely affected or compromised, the transporter may take any appropriate steps available to it to secure a reduction in the rate of withdrawal, or the discontinuance of the withdrawal, of the system gas from the gas pipeline transportation system at the exit point.

(d) The aforementioned steps may, following (where practicable) appropriate notice, include the disconnection of the relevant exit point, but (without prejudice to any provision of the network code) the transporter will endeavour not to take this step where in its opinion alternative steps are available and adequate in the circumstances.

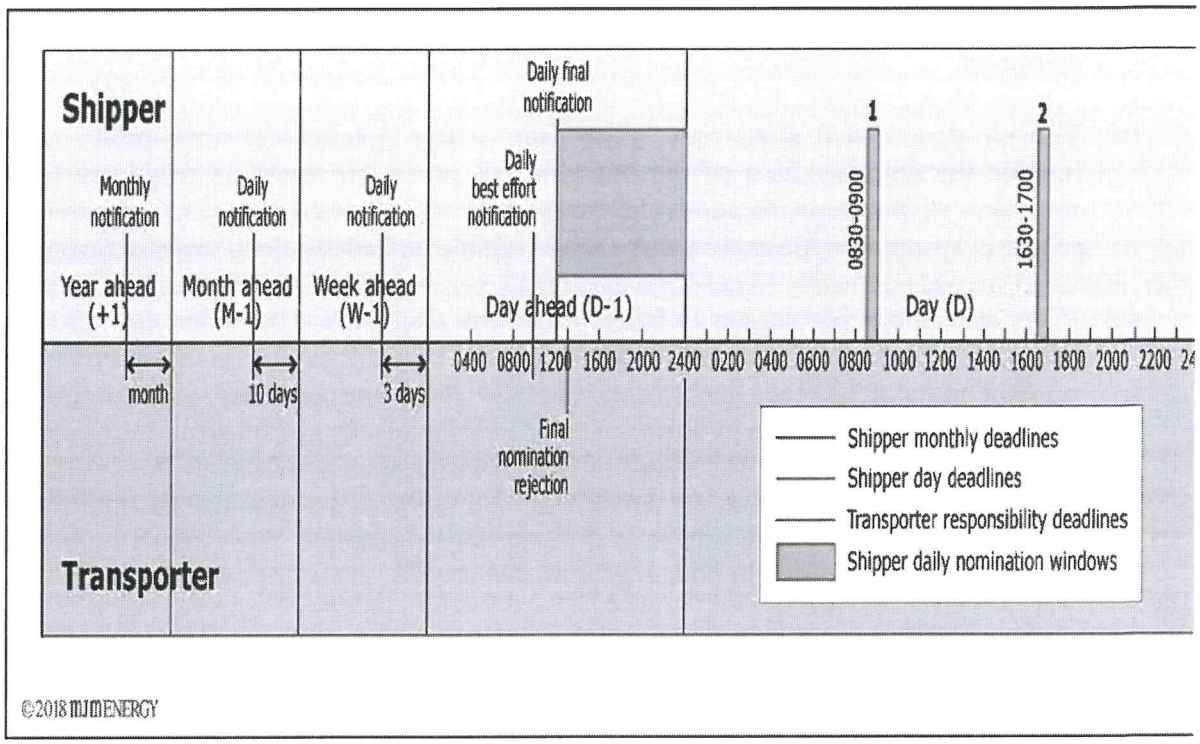
(e) If the transporter has reason to believe that any shipper (or customer, for whom the shipper has procured gas,) has withdrawn system gas other than as a reasonable and prudent operator, or other than in accordance with the network code, or has withdrawn system gas so as to prejudice the system integrity of the gas pipeline transportation system or interfere with the withdrawal of system gas elsewhere on the system, the transporter may discontinue the delivery of gas to the exit point until the interference is remedied or, the system integrity of the system is restored, or system's operational constraints are removed, to the reasonable satisfaction of the transporter.

6.7 Access to Facilities

(a) The transporter shall have the right of access at all reasonable and necessary times to the retail consumer's facilities (including where such facilities are located downstream of the exit point) and to the premises of any third party to whose property or premises gas is delivered, without charge and as may be required, for the sole purposes of exercising its rights in accordance with the relevant sections of the network code.

(b) Without limiting the foregoing provisions of this Article, where any system gas withdrawn at an exit point is for use by a customer, the shipper shall ensure that such customer is bound by the provisions of the network code. In the event the shipper does not procure such customer to be bound by the provisions of the network code the transporter shall be entitled to stop transporting such shipper's gas and the terms of the arrangement shall be suspended accordingly until such time as such customer does become bound by the provisions of the network code, but without prejudice to the continuing obligation on the shipper to pay the capacity component of the tariff.

Figure 5 – Schematic of nominations and renominations regime



7.1 Introduction

Shippers shall nominate quantities of gas for delivery to entry points and withdrawal from exit points for each balancing period in accordance with this Article.

7.2 Types of Nominations

(a) Final nomination;

(b) Nomination;

(c) Renomination.

(d) References in the network code to a nomination prevailing at any time before or during a balancing period are to the most recently accepted nomination, final nomination or renomination that has been made and accepted by the transporter in accordance with this Article.

(e) Each shipper shall use its reasonable endeavours to submit accurate nominations for the quantities of gas which it intends to deliver to an entry point and withdrawn from an exit point during a balancing period.

7.3 Nomination Schedule

(a) The shipper shall notify the transporter of the quantities of specification gas that it requires to transport through the system from the entry point to the exit points in the following manner:

(i) Year ahead notification of month-wise deliveries and withdrawals in MMSCFD, one (1) month prior to the start of the relevant year;
(ii) Month ahead notification of day-wise deliveries and withdrawals in MMSCFD, ten (10) days prior to the start of the relevant month;
(iii) Week ahead notification of day-wise deliveries and withdrawals in MMSCFD, three (03) days prior to the start of the relevant week;
(iv) Day-ahead and within-day notification in accordance with clause 7.4 below.

(b) While making the above nominations, the shipper shall ensure that the aggregate quantity of gas nominated for delivery to the entry points shall equal the aggregate quantity of gas nominated for withdrawal at the exit points adjusted for shrinkage and any variations in order to minimise the shippers cumulative imbalance quantity.

(c) Where, subject to Article 3, a shipper has built up a shipper cumulative imbalance quantity that it is seeking to reduce, the transporter may at its discretion relax the requirement in 7.3(b) subject to meeting its responsibilities as a reasonable and prudent operator with respect to the safe and efficient operation of the gas pipeline transportation system.

7.4 Daily Nomination Process

(a) A shipper may submit a final nomination in respect of each balancing period and, where a shipper does so by not later than [12:00] hours on the day preceding the balancing period, such nomination shall be taken into account by the transporter for the purposes of this Article.

(b) A shipper shall submit a separate final nomination in respect of each entry point and each exit point at which it wishes to deliver or withdraw a quantity of gas during a balancing period as the case may be.

(c) Each final nomination shall specify:

(i) The identity of the shipper;
(ii) The relevant entry point and exit point;
(iii) In respect of each balancing period, the quantity of gas to be delivered to each entry point and the quantity of system gas to be withdrawn at each exit point.

(d) The transporter may reject a final nomination where:

(i) The shipper is not a registered shipper at the relevant entry point and exit point; or
(ii) The shipper holds insufficient capacity at the relevant entry point and relevant exit point.

(e) Following submission of a final nomination, the transporter shall notify the shipper not later than three (3) hours following submission of such final nomination that it has:

(i) Rejected the final nomination together with the reasons for the rejection; or
(ii) Accepted the final nomination.

(f) Following submission of a final nomination which has been accepted by the transporter a shipper may submit a renomination in accordance with this Article.

(g) In the event that no nomination is submitted in respect of an entry point or an exit point at which the shipper wishes to deliver, or withdraw from, the transmission system a quantity of gas, the quantity of gas to be delivered to the entry point or the quantity of gas to be withdrawn from the exit point shall be treated as zero (0) MMSCF.

(h) During the balancing period, a shipper will be entitled to submit a renomination in renomination window according to the following timetable:

(i) Renomination window 1: 08:30-09:00
(ii) Renomination window 2: 16:30-17:00

(i) The transporter will not be required to accept a renomination that specifies a quantity of gas less than that already delivered to an entry point or withdrawn from an exit point.

7.5 Operating Schedule

(a) The transporter will not later than [15:00] hours on each day notify a shipper, in respect of the next balancing period of the quantity of specification gas provisionally scheduled for delivery by the shipper to each entry point and the quantity of system gas provisionally scheduled for withdrawal by the shipper at each exit point.

(b) Where the transporter accepts renominations it shall notify a shipper of the revised quantity of specification gas to be delivered to the entry point or the revised quantity of system gas scheduled for withdrawal from the exit point during the balancing period.

7.6 Under/Over Deliveries

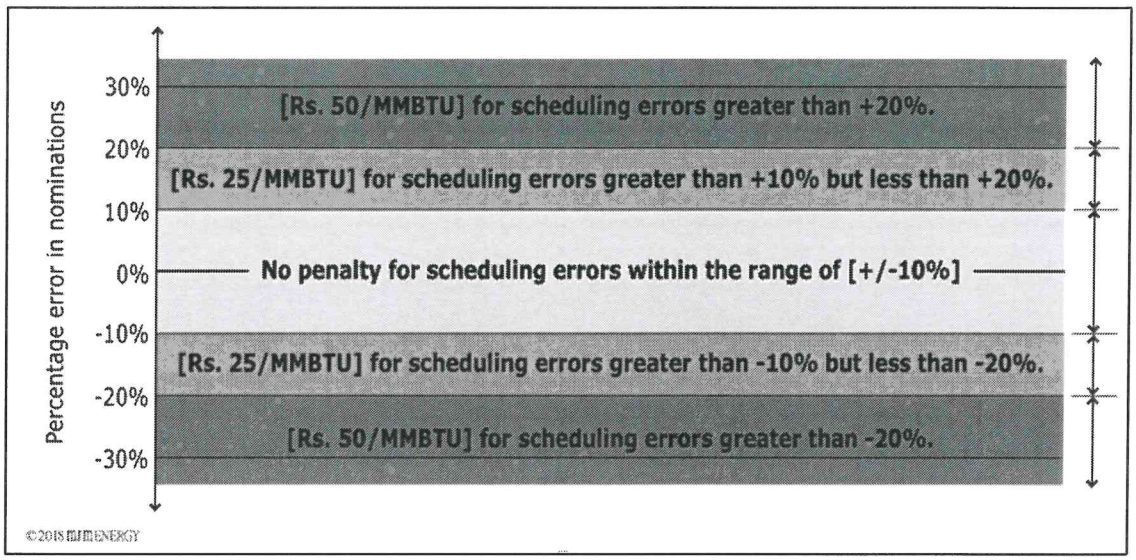
(a) If, in the opinion of the transporter, there are likely to be under-deliveries of the nominated quantities of a shipper's specification gas at an entry point, for whatever reason on any day, the transporter may notify such shipper that the transporter may be unable to deliver specification gas at the exit point in excess of the quantity actually delivered at the entry point on such day after accounting for shrinkage.

(b) If there are over-deliveries of the nominated quantities of a shipper's specification gas at an entry point the transporter will be under no obligation to store the specification gas in the gas pipeline transportation system to the extent of such over-deliveries.

(c) Notwithstanding other renomination requirements, in the event of a plant trip or other similar force majeure incident, the shipper shall renominate as soon as possible.

7.7 Scheduling Charges

Figure 6 – Schematic showing the scheduling charges regime



(a) The scheduling charges will be based on the difference between:

(i) The final allocated / delivered quantities of gas as entitled to the shipper each day at each entry point; and
(ii) The quantities of gas nominated by that shipper at each entry point on that day, with reference to the day ahead nomination submitted by the shipper (and accepted by the transporter).

(b) Where on a day the quantity of gas injected at an entry point by a shipper differs by more than the scheduled tolerance from the quantities nominated by the shipper in respect of that entry point (in accordance with clause 7.7 (a)) the transporter reserves the right to impose a scheduling charge.

(c) If a scheduling charge is imposed on a shipper by the transporter, the shipper shall pay a scheduling charge on the quantity by which the gas physically injected exceeds the scheduled tolerance level.

(d) The scheduling charge shall be
(i) [Rs. 25/MMBTU] for scheduling errors greater than +10% but less than +20%.
(ii) [Rs. 50/MMBTU] for scheduling errors greater than +20%.
(iii) [Rs. 25/MMBTU] for scheduling errors greater than -10% but less than -20%.
(iv) [Rs. 50/MMBTU] for scheduling errors greater than -20%.

ARTICLE 8. DELIVERY OF GAS: TITLE AND RISK

8.1 Title and Risk

Title of gas delivered at entry point shall remain vested in the shipper till the gas reaches exit point and the risk shall vest in the transporter during the transportation of gas.

8.2 Shipper's Responsibility

(a) The shipper shall be responsible and liable for the payment of the tariff and all other amounts which may become due and payable by the shipper under the access arrangement.

(b) The shipper acknowledges that it will be solely responsible to provide specification gas to the transporter at the entry point and the transporter's obligation to transport will only commence once such specification gas has been provided to the transporter at the entry point in accordance with the terms hereof.

8.3 Transporter's Responsibility

Subject to the shipper complying with its obligations under the access arrangement, the transporter shall, subject to availability of capacity equivalent to shipper's contracted capacity in its system, be responsible for delivering the system gas at the exit points in accordance with the terms of the access arrangement. However, in the event of a drop of the system's line pack to such a lower limit, due to any reason whatsoever, that the smooth and proper operation of the transporter's compressor units does not remain possible or due to any other technical restraints beyond the control of the transporter, the transporter shall not be obligated to accept specification gas at the entry point or to transport the same provided that the transporter shall use its reasonable efforts not to reject specification gas at the entry points, or to refuse delivery of system gas at the exit points.

ARTICLE 9. ALLOCATIONS

9.1 General

This Article will determine the quantities used for settlement where multiple shippers are registered at entry points or exit points. Where the provisions of this Article are not used, the default calculations set out in Article 3 shall apply.

9.2 Entry Point Allocation Arrangements

(a) Where two (2) or more shippers are registered at the same entry point each shipper shall enter into an allocation agreement and each shall appoint a nominee for the purposes of submitting a statement in respect of such entry point.

(b) For the avoidance of doubt each shipper will appoint the same nominee.

(c) Within eight (8) hours of the end of the balancing period, the nominee will submit a statement to transporter and shipper setting out the shipper delivery quantity attributable to each shipper registered to that entry point during the balancing period.

(d) Where no statement is received, the default arrangements set out in Article 3 will apply.

9.3 Exit Point Allocation Arrangements

(a) Where two (2) or more shippers are registered at the same exit point each shipper shall enter into an allocation agreement and each shall appoint a nominee for the purposes of submitting a statement in respect of such exit point.

(b) For the avoidance of doubt each shipper will appoint the same nominee.

(c) Within eight (8) hours of the end of the balancing period, the nominee will submit a statement to transporter and shipper setting out what share of the metered withdrawal quantity recorded at that exit point is attributable to each shipper registered to that exit point during the balancing period.

(d) Where no statement is received, the default arrangements set out in Article 3 will apply.

ARTICLE 10. MEASUREMENT AND TESTING

10.1 Measuring Party

(a) The shipper or its nominee shall be the "measuring party" at the entry point.

(b) The transporter or its nominee may at its own risk and expense install check metering downstream of the entry point

(c) The transporter shall be the "measuring party" at the exit points.

10.2 General

(a) Gas measurement, recording, installation of meters and gas analyzers, check meters and calibrations and determination of the volume in the case of meter malfunction and/or tampering with the meter or any of the measuring equipment in order to secure more gas than measured by the meter shall be carried out as per Appendix D.

(b) The shipper shall ensure that at least daily the data recorded at the entry point set out in Appendix D is provided to the transporter for the purposes of settlement.

(c) The transporter shall provide the shipper with the metering data on consumption, pressure and temperature recorded for a shipper's retail consumers and wholesale customers on a monthly basis or a shorter interval to ensure that a shipper may validate its settlement bills.

(d) No retail consumer or wholesale customer of the shipper shall be supplied gas before the metering equipment that provides data recorded at least daily and operating in accordance with this Article has been installed at the exit point serving its premises and such metered data may be provided to the shipper on a daily basis.

ARTICLE 11. SPECIFICATIONS: QUALITY AND PRESSURE

11.1 Quality

(a) The specification gas tendered by the shipper at the entry point shall conform to the specifications as described in Appendix C.

(b) The transporter shall have no obligation to accept off-specification gas from the shipper.

(c) In the event that off-specification gas is delivered to an entry point on behalf of the shipper without prior written permission of the transporter and as a result thereof there is damage to the transporter's system, then the shipper shall reimburse the transporter any reasonable cost and expenses pro rata to the volume belonging to the shipper, including but not limited to losses resulting from third party claims, incurred by the transporter, as certified by the transporter's external auditors, in reimbursing, cleaning, clearing, reinstating and/or repairing of the aforesaid the transporter's system as may be necessary, in each such event following the transporter's taking such off-specification gas, subject to such restrictions as may be provided by the access agreement and Article 20.

11.2 Pressure

(a) The shipper shall deliver the specification gas at the entry point at a pressure matching the operating pressure at such entry point set out in the gas entry conditions and the connected system agreement.

(b) The specification gas tendered by the shipper at an entry point shall be delivered as system gas at the supply pressure specified at the exit points except where there are system's operational constraints.

ARTICLE 12. SYSTEM PLANNING

12.1 System Expansion Plan

(a) The transporter shall annually prepare and publish on its website an indicative system expansion plan in respect of each of the next [three (3)] consecutive years in accordance with this Article.

(b) The system expansion plan shall be prepared by the transporter with the co-operation of the relevant stakeholders including, without limitation, customer representatives, LNG terminal developers, gas producers, shippers and the government, and the shippers shall provide the relevant information to the transporter for the purposes of enabling the transporter to:

(i) comply with its obligations under the applicable rules and the transporter's licence in relation to the development of the gas pipeline transportation system; and
(ii) prepare and publish the system expansion plan while taking into account its economic viability.

(c) For the avoidance of doubt, the transporter may make use of information made available under Article 8; Nominations and Renominations.

ARTICLE 13. OPERATION, MAINTENANCE, AND REPAIR OF FACILITIES

13.1 Repair & Unscheduled Maintenance

In the event that a part or parts of the gas pipeline transportation system is damaged or is otherwise incapable of enabling full performance of the transportation obligations under this code, the transporter shall repair and reinstate the affected sections of the system on a reasonable endeavours basis. In every such case, capacity may be reduced accordingly until the repair is completed.

13.2 Maintenance

(a) The transporter and the shipper shall use their respective reasonable endeavours to co-ordinate in advance the carrying out of maintenance anticipated to require a reduction or cessation of deliveries of specification gas hereunder or impair the ability of any of the parties to take delivery of such specification gas. The parties shall consult with each other regarding their respective maintenance requirements for the following year and shall provide each other with such information as may be reasonably requested and shall endeavour to agree a mutually scheduled maintenance period.

(b) In keeping with its licence obligation, the transporter shall publish the resulting annual maintenance schedules on its website.

(c) The transporter shall have no liability for failure to accept specification gas and delivery of system gas as a result of any maintenance in accordance with this Article.

ARTICLE 14. EMERGENCIES

14.1 General

This Article provides for the requirements to be complied with by shippers on the gas pipeline transportation system so that the transporter can satisfy its responsibilities in the event of an emergency.

14.2 Emergency

(a) The existence of an emergency shall be determined by the transporter, irrespective of the cause of the emergency or whether the transporter or any other person may have caused or contributed to the emergency.

(b) An emergency may exist:

(i) By reason of an escape, or suspected escape, of gas; or
(ii) In circumstances which, in the opinion of the transporter:

1) The safety of the gas pipeline transportation system is significantly at risk;
2) The safe transportation of gas by the gas pipeline transportation system is significantly at risk,
3) Gas transported by the gas pipeline transportation system is at such a pressure or of such a quality as to constitute, when supplied to premises, a danger to life or property; or
4) Any other circumstances reasonably believed by the transporter to constitute an emergency (which, for the avoidance of doubt, may include circumstances upstream of an entry point).

14.3 Emergency Steps

(a) The transporter may take steps ("emergency steps") to avert and/or reduce the probability of, or probable scale of, an emergency or to overcome or contain an emergency and/or to avert or reduce the hazard presented by an emergency and/or to restore gas supply and normal operation of the gas pipeline transportation system (including through the possible sale or purchase of gas) in the course of and/or following the taking of any such emergency steps. Emergency steps may include action to be taken by the transporter or a shipper (at the transporter's request).

(b) The transporter and shippers acknowledge that in an emergency their interests will be subordinated to the need to take emergency steps in accordance with this Article.

(c) In view of the importance of co-ordination of emergency steps, a shipper shall only take emergency steps in accordance with this Article and pursuant to a request made by the transporter.

(d) No emergency step taken including any act or omission in connection therewith by the transporter or any shipper, in compliance with any requirements of this Article shall be a breach of any provision of the code (however, for avoidance of doubt, the financial obligations of shippers under their respective access agreements shall remain in effect).

14.4 Emergency Contacts

(a) Each shipper shall provide to the transporter:

(i) A single telephone number, a single facsimile number and a single email address at which the transporter may contact, 24 hours a day and on each day of a gas year, a representative of the shipper in an emergency for any purpose pursuant to this Article;

(ii) The name(s), title(s) and addresses of the shippers' representatives who may be contacted at such numbers and addresses.

(iii) Each such representative shall be a person having appropriate authority and responsibilities within a shipper's organisation to act as the primary contact for the transporter in the event of an emergency.

(iv) The emergency contact details required shall be provided by an applicant shipper before becoming a shipper and shall at all times be maintained up to date, and for these purposes a shipper shall notify to the transporter any change in such details promptly and where possible in advance of such change.

(v) If a shipper does not provide such details, or cannot be contacted forthwith at the contact point, the transporter may discontinue the delivery and / or offtake by such shipper of gas. In such circumstances, the transporter shall not be liable for any costs incurred in connection with such discontinued delivery and / or offtake of gas, and the shipper shall indemnify the transporter in respect of any costs incurred in respect of such disconnection.

14.5 Occurrence of an Emergency

(a) Where an emergency arises, the transporter will inform shippers of the commencement, and (so far as practicable) the nature, extent and expected duration of the emergency. The transporter will (so far as practicable) keep shippers informed of any material changes and developments in respect of the emergency and, subject to 14.7(h), will notify shippers as soon as reasonably practicable of the time at which the transporter considers the emergency has ended.

(b) During an emergency each shipper shall cooperate with the transporter, so as to enable the transporter to take emergency steps.

14.6 Entry Control

(a) Where emergency steps include increasing or decreasing the delivery and/or rate of flow of gas to an entry point the transporter may issue appropriate instructions in respect of such increase or decrease, to the shippers utilising such entry point, who in turn will exercise their nomination rights under their respective agreements with their gas suppliers as necessary and/or as requested by transporter to the extent practical but at all times using all reasonable endeavours.

14.7 Exit Control

(a) Where emergency steps include the reduction or discontinuance of withdrawal of gas at an exit point, the transporter will first seek voluntary reductions by the shippers.

(b) Subject to the rules applicable to the third-party access arrangements, if the transporter cannot achieve the requisite reduction voluntarily in a timely manner, it will reduce demand on the gas pipeline transportation system (so far as the transporter deems practicable and necessary) in the order and in the manner specified in any applicable policy of the Government of Pakistan.

(c) Each customer within each of the above categories being treated on a not unduly discriminatory basis.

(d) In so reducing demand, the transporter will give due consideration, upon notice from a shipper so as to enable retail consumers or wholesale customers to discontinue offtake in such a manner as to protect essential or major capital items of plant, or to allow the retail consumer or wholesale customer to change to alternative fuels.

(e) Where, pursuant to the emergency, the transporter instructs a shipper to give any notification or communication to a retail consumer or wholesale customer or, the shipper shall comply with that instruction.

(f) Without prejudice to the transporter's ability to take any emergency steps, the transporter may take steps physically to isolate any entry or exit point where a shipper does not comply with any instruction given under this Article.

(g) The order in which withdrawal of gas at exit points is restored will, so far as is practicable, be the reverse of that under this paragraph.

(h) For the purposes of balancing only, an emergency will be deemed to cease only with effect from the start of the day (i.e. 00:00 hrs) after the day the transporter notifies the relevant shippers that the emergency ceased. In all other circumstances the emergency will be deemed to cease at the time specified in the notice issued by the transporter.

14.8 Further Consequences

The transporter and the shippers acknowledge that during an emergency it may be necessary for each of them to divert resources from other activities which may potentially result in a temporary impairment of their abilities subsequently to perform their respective obligations pursuant to the code and acknowledge that any such impairment resulting from such diversion of resources may be regarded as force majeure.

14.9 Costs

(a) Subject to any audit, the transporter shall:

(i) Not be liable for any costs incurred by a shipper which arise out of an emergency; and

(ii) be cash neutral with regard to any costs incurred by the transporter in respect of an emergency.

(b) Each shipper shall be liable for its own costs incurred in respect of an emergency save however that if withdrawals by a shipper (the "first shipper") are reduced pursuant to paragraph 14.7 with the effect that the first shipper's gas is withdrawn by another shipper (the "benefiting shipper"), the benefiting shipper shall pay the [neutral price] for that quantity of the first shipper's gas withdrawn by the benefiting shipper to the transporter on behalf of the first withdrawn and the transporter shall pay such sums so received to the first shipper.

14.10 Audit

(a) Within 6 months of the end of the emergency an audit shall be conducted by a reputable, independent auditor to determine the cause and what remedial actions may need to be taken to minimise the likelihood of such emergency arising again. The cost of such audit shall be shared between the affected shippers and transporter. The cost of any remedial measures effected by the transporter and resulting from the audit, will be recoverable costs under the tariff.

ARTICLE 15. TAXES AND DUTIES

15.1 Taxes and Duties

The transporter and the shipper shall be liable for the payment of their respective taxes, duties, levies, cesses etc. which are imposed or may be imposed on them, from time to time, by any Federal or Provincial Governmental, semi-Governmental or local Authority, Agency, Department etc. under any applicable laws of Pakistan.

ARTICLE 16. DISPUTE RESOLUTION

16.1 General

If any dispute arises between the shipper and the transporter in respect of the access arrangement and/or this network code then, firstly, the parties shall use reasonable endeavours to resolve the disputes within fourteen (14) days without reference to a third-party or forum.

16.2 Technical Disputes

(a) If a dispute arises of an essentially technical nature regarding the professional judgments pertaining to measurements quantities, excess/shortfall delivered to the shipper determined as a result of reconciliation of gas and other technical disputes which cannot be resolved between the Parties pursuant to Article 16.1 above, then a technical expert mutually appointed by the parties will be referred the dispute for resolution within 30 days of the referral. In the event that the parties do not agree on the appointment of the technical expert within thirty (30) days, any party may request the Authority for the appointment of the technical expert and the appointment made by the Authority shall be binding upon the parties. The representatives of the parties would be given an opportunity to represent their case before the expert.

16.3 Arbitration

(a) All the disputes, controversies or differences that may arise between the parties out of or in connection with the access arrangement and/or this network code, if not settled in accordance with this Article 16.1 and 16.2 shall be referred to Arbitration. The arbitration proceedings shall be conducted in accordance with the Arbitration Act, 1940 as amended or re-enacted from time to time. Each party shall nominate one arbitrator and the two arbitrators so appointed shall appoint the third arbitrator as umpire. The award rendered by the arbitration tribunal shall be final and binding on the parties.

(b) The arbitration shall be held either at Lahore, Karachi or Islamabad. Arbitration shall be a condition precedent to any other actions/remedies under the law. The parties will contribute equally towards the costs of the arbitration proceedings and the fee of the umpire; provided that the costs of the counsel and each arbitrator nominated by the parties shall be borne by the respective party at the first instance. The foregoing shall not prevent either party from claiming costs in the arbitration proceedings and the arbitration tribunal shall have the authority to award costs in its discretion.

16.4 Gas theft

(a) Notwithstanding the above, cases related to the theft of gas, as referred in Article 18.7, shall not be referred to a technical expert or arbitration, rather such cases if not settled as per 16.1, shall be dealt with in accordance with the relevant laws for the time being in force.

ARTICLE 17. CONFIDENTIALITY

17.1 Confidentiality

Each party shall maintain in confidence in accordance with the standards of care and diligence that each utilizes in maintaining its own confidential information the terms of this agreement and any information supplied or obtained by a party pursuant to the terms hereof that is denominated in writing by any party as "confidential". This obligation of confidence shall not apply to such portions of the information that (i) are in the public domain; (ii) hereafter become part of the public domain without any party breaching its obligation of confidence; (iii) are hereafter obtained by or available to any party from a third party who owes no obligation of confidence to the other party with respect to such information or through any other means other than through disclosure by the party designating such information as confidential; (iv) are disclosed with the consent of the party designating such information as confidential; (v) must be disclosed either pursuant to any governmental requirement or to persons regulating the activities of a party; or (vi) as may be required by law, regulation, or order of any government authority in any judicial, arbitration, or governmental proceeding. Further, any party may disclose any such information to such party's affiliates, engineers or consultants, independent accountants, lenders or prospective lenders, and legal counsel employed in connection with access arrangement or the subject matter hereof, provided that such person maintains such information in confidence pursuant to the terms of this Article.

ARTICLE 18. INVOICING, PAYMENT AND GAS THEFT

18.1 Tariff Invoices

(a) Within five working days following the period for which the invoice is to be made, the transporter shall issue tariff invoices to the shipper showing the following details:

(i) The volume (MMSCF) and energy (MMBTU) of specification gas delivered by the shipper at each entry point The volume (MMSCF) and energy (MMBTU) of system gas delivered to the shipper at each exit point. In order to invoice its retail consumers and wholesale customers, the shipper may, however, request the following additional information regarding volume measurement and if feasible the transporter shall arrange to provide the same in electronic form:

(1) current and previous meter reading;
(2) differential of meter reading;
(3) unit of measurement and relevant technical factors applied.
(4) Internal consumption / System usage Gas / Transportation loss (Transmission and Distribution)

(ii) The energy (MMBTU) of gas off taken by the shipper or left with the transporter and to be considered as sales pursuant to Article 3.8 (a) or Article 3.8 (b).

(iii) The energy (MMBTU) of gas off taken by the shipper or left with the transporter in excess of the tolerance and the price applied to it in accordance with Article 3.7 (c) (i) and Article 3.7 (d) (i) for any intermediate reconciliation events during the month.

(iv) The volume (MMSCF) of gas that exceeded the scheduling tolerance in accordance with Article 7.7 on any occasions during the month.

(v) The quantity of registered capacity held by it at each entry point and each exit point for each balancing period in the month expressed in MMSCF.

(vi) Applicable rate of transportation charges to firm services and interruptible services, as applicable.

(vii) Capacity overrun charges pursuant to article 2.5.

(viii) Total value of tariff.

(ix) The value charged for the purposes of monthly reconciliation pursuant to Article 3.8 which may be a negative amount.

(x) The value charged for the purposes of intermediate reconciliation pursuant to Article 3.7 which may be a negative amount.

(xi) The value charged for the purposes of scheduling pursuant to Article 7.7.

(xii) Applicable taxes, if any.

(xiii) Due date for payment of the invoice.

(xiv) Arrears, if any.

(xv) Late payment surcharge, if any.

(xvi) Bank account/remittance instructions.

(b) The parties may agree upon the format of the tariff invoice, provided that no financial obligations are imposed on the transporter.

18.2 Payment of Tariff Invoices

The shipper shall make payment against the tariff invoice within seven (07) days from the date of issuance of such invoice into the bank account as notified by the transporter to the shipper.

18.3 Surcharge on Late Payments

If the full amount of any Tariff invoice or payment due from the shipper to the transporter is not paid when due, any unpaid amount thereof shall bear a late payment surcharge at the rate of 1.5% per Month for the default within one Year and at the rate of 2% per Month for the default after one (1) Year from and including the Day following the due date of such Invoice up to and excluding the date when payment is made.

18.4 Set Off

The shipper shall not reduce or set off any amounts from the Tariff payable by it to the Transporter under the access arrangement under any circumstances whatsoever.

18.5 Other Invoices

If any amounts are due from the shipper to the transporter under the access arrangement and if provision for the invoicing of that amount due is not made elsewhere in the access arrangement, then the transporter shall furnish an invoice along with pertinent information showing the basis for the calculation thereof. Payment shall be due within seven (7) Business Days after issuance of such invoice and late payment shall attract late payment surcharge at the rate mentioned in Article 18.3.

18.6 Remedies for Non-Payment

(a) If the shipper does not pay the tariff invoice when due or any other due amount under the access arrangement, then the transporter, in addition to the other measures available under the access arrangement, this code, and the applicable laws, may
   (i) En-cash/forfeit/draw upon the transportation tariff and commodity deposit; and
   (ii) Suspend transportation of gas to any or all of the exit points.

18.7 Gas Pilferage/Theft

(a) If any retail consumer or wholesale customer of the shipper is found involved in gas pilferage/theft by the transporter, the transporter may without prejudice to any other rights/remedies available to it under the applicable law, suspend the delivery of gas to that retail consumer or wholesale customer.

(b) The transporter shall be entitled to recover such quantities of gas from the shipper as are equivalent to the gas actually pilfered by the shipper's retail consumer or wholesale customer and as have been determined in accordance with the applicable rules / procedure, and the relevant shipper shall be liable to deliver the volumes so determined within the period of capacity allocation subject to maximum period of thirty-six (36) months.

ARTICLE 19. FORCE MAJEURE

19.1 Definition of Force Majeure

(a) In this code, "force majeure event" means any event or circumstance or combination of events or circumstances beyond the reasonable control of a party which, or the effects of which, materially and adversely affect the performance by that party of its obligations under and pursuant to this code, provided, however, that such event or circumstance or combination of events or circumstances shall not constitute a "force majeure event" hereunder to the extent that it or such material and adverse effect could have been prevented, overcome or remedied in whole or in part by the affected party through the exercise of diligence and reasonable care. Each party shall take all reasonable efforts to overcome the force majeure event. Without limiting the generality of the foregoing a "force majeure event" hereunder shall include each of the following events and circumstances, but only to the extent that each satisfies the above requirements and is not limited to the following:

(i) Acts of God, including but not limited to cyclones, epidemics, landslides, earthquakes, floods, and washouts; lightning, fire, tsunami, storm, typhoon, or tornado, explosion or chemical contamination (other than resulting from an act of war), or plague;

(ii) Strikes, lock-outs, labour or other industrial disturbances which prevent the delivery or acceptance of specification gas at the entry point or system gas at the exit point and/or at the facilities downstream of the entry point or strikes, works to rule, or go-slows that are widespread or nationwide;

(iii) Explosion, collision, radiation, act of the public enemy, act of war (declared or undeclared), invasion, armed conflict or act of foregoing enemy, blockade, embargo, revolution, riot, insurrection, widespread civil commotion or disturbance, act of terrorism, or sabotage, insurrection or national emergency (whether in fact or law); rupture of pipeline, accident or emergency shutdown to prevent catastrophe unless directly attributable to the gross negligence or wilful misconduct of any of the parties hereto;

(b) On the occurrence of a force majeure event, the affected party shall not be liable for its failure to comply with its obligations hereunder for the period in which the force majeure event continues and if any time period stipulated herein is impacted by a force majeure event, the time period shall be suspended for the duration of the force majeure event.

(c) A party claiming to be affected by force majeure shall promptly but not later than forty-eight (48) hours after the event or the resumption of means of communication notify the other party in writing of the occurrence and details of any event or circumstance said to give rise thereto and the estimated nature and extent of the delay in performance of its obligations under this code resulting there from.

(d) Subject to Article 27.6, the party affected shall use all reasonable diligence to overcome or control the effect of the force majeure event as quickly as possible, keeping in view the surrounding circumstances, provided that where a party is prevented from performing an obligation under this code as a result of force majeure

and such obligation is to be performed within a given timeframe, such timeframe shall be extended by the duration of the force majeure.

19.2 Force Majeure Termination

In the event that a party facing force majeure can only overcome the force majeure by incurring expenditure which would make it uneconomic or commercially or technically unfeasible for such party acting reasonably and prudently to continue with its obligations hereunder or if the circumstances or events caused by the force majeure are incapable of remedy and in either case the delivery or acceptance of specification gas or system gas, as the case may be, in the requisite quantities is prevented, the party affected thereby shall have the right to terminate the access agreement upon giving ninety (90) days advance notice to the other party.

ARTICLE 20. LIABILITIES AND INDEMNITIES

20.1 Indemnities

(a) Subject to Article 20.2, each party will indemnify and hold harmless, and will continue to indemnify and hold harmless, the other party against any and all direct and reasonable loss, damage, proceedings, costs, actions, claims etc., relating to, arising from or connected with:

(i) Any breach of the access arrangement or violation of applicable law by the indemnifying party;
(ii) Any negligent act or omission of the indemnifying party.

20.2 Limitation of Liability

(a) Neither party shall be liable to the other party for any consequential losses.

(b) The total aggregate liability of a party for breach of the access arrangement or any other claim including any indemnity the access agreement, shall not exceed the total amount of tariff for the three (03) months period preceding the date when the breach occurred or the claim first arose.

(c) Nothing in this Code shall limit, exclude or prevent any liability in respect of a loss or liability caused to either party by the wilful and deliberate misconduct of the other party.

ARTICLE 21. MODIFICATIONS

21.1 General

(a) A transporter or shipper may propose modifications to the network code in writing setting out in sufficient detail the nature and purpose of the proposed modifications and whether that modification should be treated as urgent.

(b) The transporter or shipper shall communicate the proposed modifications to the Authority and the Authority shall place the proposed modifications on its website and refer it to the code modification panel.

(c) The transporters shall place a template for drafting a modification on their website and shall communicate the template to the Authority for placing it on its website.

(d) The transporters shall maintain a register of the proposed modifications indicating their status.

(e) The Authority may either accept the modifications recommended by the code modification panel or reject any proposed modifications that it considers unreasonable, impracticable or contrary to legal requirement.

21.2 The Panel

(a) Within [ninety (90)] days of the approval of this Code, the Authority shall appoint the members of the Modification Panel as provided herein and the Panel shall not later than a period of [three (3) months] of assigning the task develop the modifications required in this Code in accordance with the process specified herein.

(b) The code modification panel shall consist of:

(i) Two representatives of the transporters;
(ii) Two representatives of the shippers; and
(iii) Such other parties as the Authority may, from time to time, direct.

(c) The panel shall consider the proposed modifications and undertake such other functions in relation to the modifications as the Authority may direct from time to time.

(d) The panel shall consider each proposed modification and consult with any third party who the panel shall deem appropriate and with any person whom the authority shall direct, in relation to each proposed modification.

21.3 Modification Report

(a) Following the consideration of a proposed modification, the code modification panel shall submit a report to the Authority outlining its recommendations in respect of the proposed modification.

(b) The report should be delivered to the Authority not later than [three (3) months] after submission of the modification proposal except where the Authority has indicated that a longer period of analysis is required.

(c) The report shall include:

(i) A description of the consultation and any other work that has taken place in relation to such modification;
(ii) An analysis of how the proposed modification meets the relevant objectives;
(iii) A recommended implementation date;
(iv) Where the panel has reached a consensus a recommendation to the Authority on whether the panel considers the proposed modification should be implemented or not;
(v) An outline of the submissions of the members of the panel in circumstances where the panel has not reached a consensus; and
(vi) In each case any issues of a technical or operational nature raised by the transporter.

21.4 Relevant Objectives

(a) In carrying out its analysis, the panel should consider whether the proposed modification better meets the following relevant objectives:

(i) Efficient and economic operation of the gas pipeline transportation system, including discouraging misuse of the pipeline system;
(ii) Coordinated, efficient and economic operation of all or part of the gas pipeline transportation system;
(iii) Efficient discharge of the licensees' obligations;
(iv) Securing effective competition;
(v) Provision of reasonable economic incentives for relevant shippers to ensure that security of supply standards are met;
(vi) Promotion of efficiency in the implementation and administration of the code; and
(vii) Compliance with relevant law, rules and regulations.

21.5 Approval Process

(a) Within three months of the receipt of the report from the code modification panel, the Authority shall determine whether to accept or reject the proposed modification of the network code.

(b) Where the Authority approves the proposed modification, it shall issue a notice of approval in writing to the code modification panel and require the panel to incorporate the approved modification into the network code.

(c) The panel shall not later than 3 months of the date of the Authority's notice of approval submit the updated draft of the network code containing the approved modification. Extension in time period, if required, may be submitted to the Authority.

(d) The Authority shall, on being satisfied that the approved modification has been duly incorporated in the network code, approve the updated network code.

(e) Where the proposed modification is rejected by the Authority, the Authority shall issue a notice of rejection in writing to the code modification panel outlining the reasons for such rejection.

21.6 Urgent Modifications

(a) A transporter or shipper may submit to the Authority that a proposed modification is urgently required in order to:

(i) Comply with any legal requirement or change in law or regulation affecting the gas pipeline transportation system;
(ii) Comply with the consequences of changes to the normal operation of the gas pipeline transportation system and/or any connected system; and/or;
(iii) Take into account experience in the operation, maintenance and/or use of the gas pipeline transportation system and of transportation systems generally, good industry practice and/or changes in technology.

(b) Where the Authority is satisfied that the proposed modification is urgently required, the Authority may refer the proposed modification to the code modification panel and vary the timing and process of the modification given in this Article in such manner as it deems fit after stating the reasons thereof.

ARTICLE 22. CREDIT ISSUES

22.1 Transportation Tariff and Commodity Deposit

(a) In order to cover the financial exposure of the transporter, the shipper shall, at least fifteen (15) days before the effective date, furnish to the transporter, at its own cost, a security deposit (hereinafter referred to as the "security deposit").

(b) The security deposit shall be in the form of cash or a Standby Letter of Credit on a scheduled bank in favour of the transporter, the format of which will be approved in writing by the transporter and which shall be issued by such bank as may be approved by the transporter.

(c) The security deposit should at all times be equivalent to the aggregate of the transportation charges for two (02) billing periods (where the billing period constituting 30 days) inclusive all of levies and applicable taxes.

(d) The security deposit may be retained by the transporter up to three (3) months after expiry or earlier termination of the access agreement without any Mark-up.

(e) In the event that the shipper fails to pay any amount payable to the transporter when due, the transporter shall be entitled to draw, en-cash or collect such amounts from the security deposit. In case of any such draw, encashment or collection, the shipper shall ensure that the security deposit is replaced, replenished or renewed to the satisfaction of the transporter within [seven (7) days] of such draw, encashment or collection.

(f) In the event that the security deposit is not replaced, replenished or renewed to the satisfaction of the transporter:

(i) at least thirty (30) days prior to the date on which the said deposit is scheduled to expire;
(ii) or within seven (7) days of draw, encashment or collection as stipulated in Article 22.1(e);
(iii) or the deposit is not adjusted accordingly within thirty (30) days of the shipper being notified by the transporter that the estimates determined under (c) have changed, then without prejudice to any other rights or remedies available to the transporter under the access agreement, this code or any applicable law, the transporter shall be entitled to suspend the transportation of gas.

ARTICLE 23. GOVERNING LAW

23.1 Jurisdiction and Applicable Law

This Agreement shall be construed and interpreted in accordance with and governed by the substantive and procedural laws of Pakistan and the Court of competent jurisdiction, as the case may be, shall have the exclusive jurisdiction over the matters pertaining to the access arrangement as well as supervision and enforcement of the arbitral award.

ARTICLE 24. NOTICES

24.1 Methods

(a) Each communication to be made hereunder shall be made in writing but, unless otherwise stated, may be made by facsimile, email or hand-delivered letter.

(b) In order to facilitate communication the transporter may from time to time make available template documents by email or by posting on a website to complete activities described in the code.

24.2 Delivery

(a) Any communication or document to be made and/or delivered by one Party to another pursuant to this Agreement shall (unless that other Party has by fifteen (15) Days written notice to the other Parties specified another address) be made or delivered to that other Party at the address identified with its name below and shall be deemed to have been made or delivered;

(i) in the case of any communication made by facsimile, when confirmed by a transmission report verifying the correct facsimile number and number of pages and that such transmission was well transmitted;

(ii) in the case of any communication made by letter, when left with an acknowledgement of receipt at that address, whether by a courier, messenger, or otherwise; or

(iii) in the case of any communication made by email, five (5) minutes after it has been sent.

In the case of the Transporter:

To:
Transporter
----------, [Lahore]
Attention:
Facsimile:

In the case of the
shipper:

To:
shipper (Pvt.) Limited
Address:
Attention:
Facsimile:

Either Party may change its designated person or address for the purpose of notice at any time by giving prior written notification to the other Party.

24.3 Language

Each communication and document made and/or delivered by one Party to any other pursuant to this Agreement shall be in the English language.

ARTICLE 25. TARIFF

25.1 The Tariff

(a) The tariff payable by the **firm service shipper** shall be payable monthly in arrears and shall be determined in respect of capacity registered to the shipper, and;
(b) The tariff payable by the **interruptible service shipper** shall be payable monthly in arrears and shall be determined by the quantity of gas actually delivered by the transporter to the shipper at Exit Point(s).
(c) There shall be two part transportation tariff applicable in respect of transmission network and / or distribution network. The capacity charge rate shall be based on the system fixed cost components and the utilization charge rate shall comprise variable charges
(d) The transportation tariff shall be based on the postal tariff principle, however, in case of dedicated pipelines of transmission system used specifically for transportation of gas of a particular shipper, e.g. SSGC transporting SNGPL's RLNG, transportation tariff may be worked out on distance transported basis and expenses related to that very segment will only become part of the transportation tariff of that segment.
(e) The tariff along with the calculations to arrive there is set forth in this Article and utilises charge rates published in the [annual charging statement].

25.2 Payment Obligation

The shipper shall pay the tariff according to the tariff invoices issued by the transporter to the shipper for each billing period as set out in Article 18.

25.3 Charges

(a) For the purposes of the code:

(i) "distribution charges" are charges which apply in respect of the distribution system;

(ii) "transmission charges" are charges which apply in respect of the transmission system; and

(iii) "transportation charges" are transmission charges and / or distribution charges.

25.4 Calculation of Capacity Charges

i. The amount of any transportation charge payable by a firm service shipper in respect of a balancing period shall be determined with reference to shipper's registered capacity and the transportation charge rate in respect of such registered capacity as set out in the charging statement.
ii. The amount of any transportation charge payable by an interruptible service shipper in respect of a balancing period shall be determined by reference to the quantity of gas actually delivered by the transporter to the shipper at the exit point(s) and the transportation charge rate in respect of such service as set out in the charging statement.
iii. The firm service shipper will pay transportation tariff in respect of capacity contracted / booked by it irrespective of the fact that lesser or no gas is made available by it for

transportation while the interruptible service shipper will pay the tariff in respect of volume actually delivered to it at its exit point(s).

25.5 Calculation of Utilization (usage) Charges

(a) The amount of any usage charge payable by a shipper in respect of a balancing period shall be determined by reference to the shipper withdrawal quantity at each transmission exit point or distribution system exit point [adjusted for shrinkage] for the balancing period and the usage charge rate as set out in the charging statement. The usage charges shall be uniformly applicable in respect of firm or interruptible shipper.

25.6 Tariff Work Example

(a) The Worked Example for the calculation of tariff under this Article in respect of transmission network is provided below:

Table 2 – Tariff Work Example in Respect of Transmission Network

WORKED EXAMPLE OF TRANSPORTATION TARIFF - TRANSMISSION NETWORK (WORKING BASED ON POSTAL STAMP TARIFF PRINCIPLE)			Annex-A
Capacity of the entire network	A	2,000.00	MMSCFD
Firm service Shipper's contracted capacity	B	600.00	MMSCFD
Interruptible service shipper's contracted capacity	C	600.00	MMSCFD
Actual throughput volume (net-off GIC & UFG volumes)	D	1,800.00	MMSCFD
Firm shipper's actual off take in a month	E	550.00	MMSCFD
Interruptible service shipper's actual off take in a month	F	450.00	MMSCFD
Fixed components:			
Transmission operating cost		7,300.00	Million Rs.
Depreciation component		1,875.00	Million Rs.
Return on Assets		2,920.00	Million Rs.
	G	12,095.00	Million Rs.
Variable components:			
i) Stores and spares		300.00	Million Rs.
ii) Repair and maintenance		400.00	Million Rs.
iii) Any other cost of similar nature		30.00	Million Rs.
	H	730.00	Million Rs.
Capacity Charge = (Fixed operating cost + depreciation + ROA) / Actual throughput volume during the year (net-off GIC & UFG volumes)			
Utilization Charge = (Variable operating cost) / Actual throughput volume during the year (net-off GIC & UFG volumes)			
Average capacity charge rate for the year =	I=G / (D*365)*1000	18.41	Rs./MCF
Average utilization charge rate for the year =	J= H / (D*365)*1000	1.11	Rs./MCF
Total Tariff payable by the firm service Shipper in a particular month:			
Capacity Charge	K = (B*30*I) /1000	331.37	Million Rupees
Utilization Charge	L = (E*30*J) / 1000	18.33	Million Rupees
Total Tariff payable by the interruptible service Shipper in a particular month:			
Capacity Charge - avg. capacity charge multiplied by actual volume transported	M = (F*30*I) /1000	248.53	Million Rupees
Utilization Charge	N = (F*30*J) / 1000	15.00	Million Rupees

Notes:

1) In case of firm service, the shipper shall pay capacity equivalent to the capacity booked while utilization charge to be paid with respect to the volume actually transported (net-off GIC & UFG volumes).

(b) The Worked Example for the calculation of tariff under this Article in respect of Distribution network is provided below:

Table 3 – Worked Example of Transportation Tariff – Distribution Network (Postal Stamp)

WORKED EXAMPLE OF TRANSPORTATION TARIFF - DISTRIBUTION NETWORK (WORKING BASED ON POSTAL STAMP TARIFF PRINCIPLE)			Annex-B
Capacity of the entire network	A	2,000.00	MMSCFD
Firm service Shipper's contracted capacity	B	600.00	MMSCFD
Interruptible service shipper's contracted capacity	C	600.00	MMSCFD
Actual throughput volume (net-off GIC & UFG volumes)	D	1,800.00	MMSCFD
Firm shipper's actual off take in a month	E	550.00	MMSCFD
Interruptible service shipper's actual off take in a month	F	450.00	MMSCFD
Fixed components:			
Distribution operating cost		7,300.00	Million Rs.
Depreciation component		1,875.00	Million Rs.
Return on Assets		2,920.00	Million Rs.
	G	12,095.00	Million Rs.
Variable components:			
i) Stores and spares		300.00	Million Rs.
ii) Repair and maintenance		400.00	Million Rs.
iii) Any other cost of similar nature		30.00	Million Rs.
	H	730.00	Million Rs.

Capacity Charge = (Fixed operating cost + depreciation + ROA) / Actual throughput volume during the year (net-off GIC & UFG volumes)

Utilization Charge = (Variable operating cost) / Actual throughput volume during the year (net-off GIC & UFG volumes)

Average capacity charge rate for the year =	I=G / (D*365)*1000	18.41	Rs./MCF
Average utilization charge rate for the year =	J= H / (D*365)*1000	1.11	Rs./MCF
Total Tariff payable by the firm service Shipper in a particular month:			
Capacity Charge	K = (B*30*I) /1000	331.37	Million Rupees
Utilization Charge	L = (E*30*J) / 1000	18.33	Million Rupees
Total Tariff payable by the interruptible service Shipper in a particular month:			
i) Capacity Charge - avg. capacity charge multiplied by actual volume transported	M = (F*30*I) /1000	248.53	Million Rupees
Utilization Charge	N = (F*30*J) / 1000	15.00	Million Rupees

Notes:

1) In case of firm service, the Shipper shall pay capacity equivalent to the capacity booked while utilization charge to be paid with respect to the volume actually transported (net-off GIC & UFG volumes).

2) Third Party distribution Shipper will be liable to pay transportation tariff of both transmission and distribution network.

ARTICLE 26. CUSTOMER POINT ADMINISTRATION

26.1 General

Subject to any other regulations concerning supply competition between the shippers, this Article sets out the processes to be followed when a retail consumer or wholesale customer seeks to change its supply contract from one shipper to another.

26.2 Transfer Application

A shipper wishing to replace an existing shipper or supply a retail consumer or wholesale customer jointly with the existing shipper(s) will be required to submit an application to the transporter to change the registration details in the exit point register at least [twenty eight (28)] business days before the new supply contract is expected to begin.

26.3 Objections

(a) Details of the application will be circulated to the existing shipper or shippers and the transporter shall provide them with the opportunity to object to the amendment to the register.

(b) If no valid objection is received within five (5) business days, the transporter will inform the new shipper and the existing shipper of the date on which the exit point register is to be amended.

(c) The transporter may refuse to accept the application where the relevant metering has not been fitted at the proposed site and, notwithstanding this objection, the transporter shall use reasonable endeavours to fit an appropriate meter.

26.4 Transfer

From the date of amendment notified by the transporter, gas supplied for withdrawal at the exit point will be deemed to be the responsibility of all shippers registered at that exit point and metering data will be taken into account for tariff and balancing purposes in accordance with Articles 3 & 25 and the details of any allocation agreement entered into under Article 9.

ARTICLE 27. MISCELLANEOUS

27.1 Assignment

The role of the parties under this Code cannot be assigned by any of the parties to any third party except with prior written and valid consent of the other party and the Authority.

27.2 Headings

Article and Appendix headings are for ease of reference only and shall not be taken into account in the construction or interpretation of any provision to which they refer.

27.3 Appendices

The Appendices attached hereto constitute an integral part of this Code.

27.4 Ineffective Provisions

This code shall be subject to all applicable laws, regulations, orders, decrees, and directives. If any provision of this code is or becomes void or unenforceable by operation of applicable law, the other provisions of this code shall not be affected. The parties will in good faith meet and make all reasonable endeavours to replace the void or unenforceable provision by a valid and enforceable provision that maintains the commercial bargain or achieves an economic result as similar as possible to the void or unenforceable provision. To the extent that any provision of applicable law renders any provision of this code void or unenforceable, such provision of applicable law will be waived to the fullest extent possible.

27.5 Suspension and Termination: Transporter's Rights

(a) If the shipper defaults for more than seven (7) days in the payment of a tariff invoice hereunder, the transporter may give a seven (7) day written notice of such default to the shipper stating that the transporter intends to suspend performance of its transportation obligations hereunder.

(b) Upon receipt of such notice the shipper shall have seven (7) days to cure such default failing which the transporter shall, in its absolute discretion, suspend performance of its transportation obligations hereunder until such default is cured.

(c) If such default is not cured within sixty (60) days after receipt of the transporter's notice as provided in Article 27.5(a) hereinabove, then the transporter shall have the right to terminate the access agreement immediately by written notice to the shipper.

(d) The transporter shall also be entitled to terminate the access agreement for any other material breach of this code and the access agreement which is not cured within sixty (60) days of receipt of the transporter's notice specifying the default and demanding its remedy.

27.6 Suspension and Termination: Shipper's Rights

The shipper shall be entitled to terminate the access agreement for any material breach of this Agreement by the transporter which is not cured within sixty (60) Days of receipt by the transporter of the shipper's notice specifying the default and demanding its remedy.

27.7 Expiry of Rights and Obligations

On the termination or expiry of the access agreement, the rights and obligations of the Parties shall cease except for accrued rights and obligations and those expressly surviving termination.

27.8 Insurance

(a) The transporter will effect and maintain such insurances as would be maintained by a reasonable and prudent operator in respect of the gas pipeline transportation system, its employees and those acting on its behalf.

(b) The shipper will effect and maintain such insurances as would be maintained by a reasonable and prudent shipper with respect to its employees and those acting on its behalf, and any other matters, including adverse weather conditions, theft, trade embargos, labour disputes and acts of subversion and terrorism.

APPENDIX A: **FORM OF ACCESS AGREEMENT**

THIS ACCESS AGREEMENT (the "**Agreement**") is made at [•] on this [•] day of [•] 2018:

Between

[•], a public limited company incorporated under the Companies Act, 2017, having its registered office at [•] (hereinafter the "**Transporter**");

And

[•], a limited liability company incorporated under the laws of Pakistan and having its registered office at [•] (hereinafter referred to as the **"shipper"**).

WHEREAS

A. The Transporter owns and operates a gas pipeline transportation system and is duly authorized to undertake transportation of gas in the Provinces of [•] pursuant to a regulatory license issued by the **Authority**.

B. The shipper holds a valid and subsisting license issued by the Authority for the transmission and / or distribution of gas by utilizing [•] MMSCF of capacity allocated to the shipper on the gas pipeline transportation system of the Transporter, vide letter No. [•] dated [•].

WITNESSETH

NOW, THEREFORE, IN CONSIDERATION OF mutual promises, it is hereby agreed between the Parties as set out hereunder:

1 DEFINITIONS AND INTERPRETATION

1.1 In this Agreement, the following words shall have the meanings respectively assigned to them hereinafter, unless the context requires otherwise:

(a) "**Authority**" means the Oil and Gas Regulatory Authority established under section 3 of the Oil and Gas Regulatory Authority Ordinance, 2002 (XVII of 2002);

(b) "**Effective Date**" means the date specified in clause 2 subject to the conditions specified in clause 4;

(c) "**Network Code**" is the common set of standard conditions governing access arrangement between transporter and shipper which shall include processes such as capacity declaration, capacity allocation, capacity hoarding, nomination, balancing of gas pipeline transportation system, network planning, metering, gas transportation tariff structure, invoicing and payment, force majeure, emergencies, load management and curtailment, communication, planned maintenance, operational planning and other operational matters, as approved by the Authority, and which shall bind the transporter not to discriminate as between similarly situated persons or classes of persons in the exercise of its rights or in the performance of its

obligations; and

(d) "**Term Sheet**" means the Term Sheet given in the Schedule appended hereto.

1.2 In this Agreement, the words and expressions not defined herein shall have the meanings given to them in the Network Code. In the event of any inconsistency or conflict between any provision of this Agreement and a provision of the Network Code, the relevant provision of this Agreement shall take precedence and prevail.

2 EFFECTIVE DATE AND TERM

2.1 Subject to the conditions specified in clause 4 below, this Agreement shall become fully effective on the date of execution hereof.

2.2 This Agreement shall remain valid for a period of [•] years until its earlier termination in accordance with the provisions contained herein.

3 ACCESSION

3.1 As of the Effective Date, the Transporter shall take delivery of the specification gas made available to it by the shipper at an entry point, up to the maximum of the shipper's contracted capacity at that entry point, transport all the specification gas through the gas pipeline transportation system and deliver the energy equivalent quantity of the system gas, subject to adjustment of SUG, TL and LP quantities, to the shipper's retail consumers and Wholesale customers at relevant exit points, in accordance with the provisions of this Agreement, the Term Sheet and Network Code.

4 CONDITIONS PRECEDENT

4.1 The provisions of this Agreement are conditional upon the fulfilment or waiver of the following conditions:

(a) The Parties have obtained the approval of the Authority to this Agreement including the Transportation Tariff;

(b) The Parties have obtained all other approvals and consents required under the applicable law;

(c) The Board of Directors of the Transporter and shipper have given approval to the terms and conditions of this Agreement by their resolution; and

(d) The shipper has provided the security deposit in a manner acceptable to the Transporter.

4.2 The date immediately following the date on which the last of the conditions specified in clause 4.1 above has been satisfied or waived shall be the Effective Date and the same shall be notified in writing by the Transporter to the shipper.

4.3 If the conditions set out in clause 4.1 above are not fulfilled, the Parties may mutually agree to revise the Effective Date; provided that where the Parties are not able to revise the Effective Date within a period of sixty (60) days from the date of execution hereof, this

Agreement shall stand terminated.

5 APPLICATION OF NETWORK CODE AND TERM SHEET

5.1 The Transporter and the shipper hereby agree, confirm and declare that the provisions of the Network Code shall be fully applicable and binding upon the Parties as of the Effective Date in relation to the access arrangement provided herein.

5.2 The Term Sheet and Network Code shall be treated as an integral part of this Agreement.

6 REPRESENTATIONS AND WARRANTIES

Each of the Party hereby represents and warrants that:

(a) it is duly incorporated and operating, and will continue to operate, in compliance with the laws of Pakistan;

(b) it will duly and timely perform all its obligations under this Agreement and the Network Code;

(c) it will procure and maintain in full force and effect all approvals, consents, authorizations, grants, licenses and entitlements required for due performance of its obligations under this Agreement and the Network Code;

(d) the entering into, and performance of, this Agreement shall be duly authorized in accordance with applicable consents and in conformity with the laws of Pakistan;

(e) it shall not default on its obligations under this Agreement and the Network Code; and

(f) there are no arrangements or proceedings pending for its reorganization or winding-up.

7 MISCELLANEOUS

7.1 Amendment or Waiver: No amendment or waiver of any provision of this Agreement including the Term Sheet shall be valid unless agreed by both the Parties through an instrument in writing.

7.2 Counterparts: This Agreement will be executed in such counterparts as may be required by the parties and each counterpart shall be deemed as original.

IN WITNESS WHEREOF, the authorized representatives of the Parties have executed this Agreement at the date and place given first above in the presence of the witnesses named herein.

For and on behalf of the **TRANSPORTER**	For and on behalf of **SHIPPER**
_____	_____
Name:	*Name:*
Designation:	*Designation:*
WITNESS 1:	**WITNESS 2:**
Signature: _____	Signature: _____
Name: _____	Name: _____
Address: _____	Address: _____
_____	_____

APPENDIX B: SCHEDULE TO ACCESS AGREEMENT

TERM SHEET FOR CAPACITY ALLOCATION BASIC DETAILS					
DETAILS OF PARTIES INVOLVED					
DESCRIPTION OF PARTY		NAME OF PARTY			
Transporter		GAS TRANSPORTER Limited			
Shipper		ABC Limited			
Gas Supplier		XYZ Limited			
Regasification Terminal		EEE Limited			
ENTRY CAPACITY BOOKING DETAILS					
NAME / REFERENCE NO.		ADDRESS / LOCATION			
DESCRIPTION		QUANTITY	UNITS		
Firm Entry Capacity			MMSCFD		
Interruptible Entry Capacity			MMSCFD		
Total Entry Capacity Booked			MMSCFD		
Capacity Allocation Term			Years		
EXIT CAPACITY BOOKING DETAILS					
NAME / REFERENCE NO.		ADDRESS / LOCATION			
DESCRIPTION		QUANTITY	UNITS		
Firm Exit Capacity			MMSCFD		
Interruptible Exit Capacity			MMSCFD		
Total Exit Capacity Booked			MMSCFD		
Capacity Allocation Term			Years		
GAS QUALITY SPECIFICATION			GAS PRESSURE		
Standard	See Appendix C	Y/ N	Standard	See Appendix C	Y / N
HOURLY RATES AND NOTICE PERIODS FOR CUSTOMERS AT SENSITIVE EXIT POINTS					
Standard	1/ 24 of day rate	Y/N	Enhanced	See Appendix B.1	Y/ N
SIGNATURES AND DATES					
TRANSPORTER DETAILS					
TRANSPORTER		SIGNATORY NAME /		SIGNATURE	DATE
SHIPPER DETAILS					
SHIPPER COMPANY		SIGNATORY NAME /		SIGNATURE	DATE

APPENDIX B.1 – RAMP RATES AND NOTICE PERIODS

B.1.1 INTRODUCTION

(a) The transporter may designate some exit points as operationally sensitive to large changes in gas flows where the booked exit capacity is greater than or equal to [XXXX] SCF.

(b) Where an exit point has been designated as operationally sensitive any nominated changes in flows will be undertaken in accordance with ramp rates and notice periods specified by the transporter, as set out in the table below.

Table of ramp rates and notice periods for operationally sensitive exit points	
Notice Period In hours	Change ramp rate
[1]	For an increase or decrease in the relevant exit flow rate of not more than [ ] SCF per hour;
[2]	For an increase or decrease in the relevant exit flow rate of more than [ ] SCF per hour but not more than [ ] SCF per hour;
[4]	For an increase or decrease in the relevant exit flow rate of more than [ ] SCF per hour but not more than [ ] SCF per hour;
[8]	For an increase or decrease in the relevant exit flow rate of more than [ ] SCF per hour but not more than [ ] SCF per hour;
[12]	For an increase or decrease in the relevant exit flow rate of more than [ ] SCF per hour but not more than [ ] SCF per hour;
[24]	For an increase or decrease in the relevant exit flow rate of more than [ ] SCF per hour but not more than [ ] SCF per hour;

(c) Notwithstanding the above when a shipper makes a request for change in withdrawal rates at an operationally sensitive exit point it may request changes in excess of the rates shown in the table above and at shorter notice periods and the transporter shall use reasonable endeavours to meet those requested nomination.

APPENDIX C: SPECIFICATION OF GAS

APPENDIX C1: RLNG GAS QUALITY SPECIFICATION FOR ENTRY TO TRANSPORTATION SYSTEM

Sr. No.	Components	Measuring Units	Parameter
1	Hydrocarbon due point	Degree Fahrenheit, max	32*
2	Hydrogen Sulphide	Grains/100 SCF, max	0.24
3	Total Sulphur	Grains/100 SCF, max	3.5
4	Carbon Dioxide	mole % max	3
5	Nitrogen	mole % max	7**
6	Oxygen	mole % max	0.2
7	Total inerts	mole % max	10
8	Temperature	Degree, Fahrenheit, max	100-120**
9	Water Content	Lbs/MMSCF, max	7**
10	Pressure	PSIG	**
11	Calorific value	BTU/SCF	925-1150**
12	Wobbe Index	BTU/SCF	1200-1494***
13	Purity: Be commercially free from foreign materials and dust or other solid matter or environmentally harmful substances, waxes, gums, and gum forming formatting constituents which might cause interference with the proper operation of the pipelines and associated facilities.		
Notes	1. '*' At all pressures. 2. '**' Indicative values maybe negotiated between shippers and transporters in the access arrangement. 3. '***' **5 % variation on account of specific gravity**		

APPENDIX C2: NATURAL GAS QUALITY FOR ENTRY TO AND EXIT FROM THE TRANSPORTER GAS PIPELINE TRANSPORTATION SYSTEM

Sr. No.	Components	Measuring Units	Parameter
1	Sulfur (max)	Grains / 100scf	3.5
2	Hydrogen Sulfide (max)	Grains / 100scf	0.24
3	Carbon dioxide (max)	Mole %age	3
4	Nitrogen (max)	Mole %age	7
5	Calorific Value (min)	Btu / scf	900
6	Wobbe Index (min)		1180*
7	Water Contents (max)	Lbs / MMscf	7
8	Hydrocarbon dew point	Degree Fahrenheit, max	32
9	Oxygen	mole % max	0.2
10	Temperature	Degree, Fahrenheit, max	120
11	Pressure	PSIG	**
12	Purity: Be commercially free from foreign materials and dust or other solid matter or environmentally harmful substances, waxes, gums, and gum forming constituents which might cause interference with the proper operation of the pipelines and associated facilities.		
Notes	1. '*' **5 % variation on account of specific gravity** 2. '**' Indicative values maybe negotiated between shippers and transporters in the access arrangement.		

APPENDIX D: GAS MEASUREMENT PROCEDURES

1 Gas measurement procedures for entry points on gas transmission

The procedure for the measurement and recording of Gas at an Entry Point shall be based on the following principles:

(a) The provision, operation and maintenance of duty and standby meter runs to determine volume flow rate.

(b) The equipping of each meter run with a square edged orifice plate and multi range transmitters or Multi Path Ultra Sonic gas meters to give adequate turndown.

(c) The correction of volume flow rate for flowing pressure and temperature.

(d) The continual on-line measurement and recording of the specific gravity and heating value of Gas.

(e) The continual calculation of the energy content of the Gas using an electronic flow computer which will record volume flow rate, flowing pressure and temperature, specific gravity and heating value and will integrate corrected volume and energy content.

(f) In addition to the measurement of energy, the measurement, calculation and recording of the specification properties of Gas at the Entry Points as follows:

(g) Hydrocarbon (C-l to C-6+), CO_2 and N_2 contents in the Gas shall be measured through on-line gas chromatographs and minimum, maximum & average values for the Day calculated from the measured figures shall be recorded, frequency of measurement shall not be more than five minutes.

(h) The hydrocarbon dew point of the Gas shall be measured with online analyzer and continually recorded.

(i) Water content in the Gas shall be measured with on-line analyzer and continually recorded,

(j) Oxygen contents in the Gas shall be measured monthly using the Gas samples and analyzed at any reputable laboratory as may be mutually agreed and recorded.

(k) In case sulphur in the gas stream is detected any time throughout the tenure of this Contract, the shipper shall install suitable monitoring equipment. H_2S and total Sulphur contents in the gas shall be measured online using the Gas sample analyzer and recorded by online H_2S and total sulphur analyzers, within a period of six months. In absence of such online equipment, weekly gas samples shall be analyzed at a lab, as may be mutually agreed.

1.2 In addition the following operating principles for measurement and recording shall apply:

(a) The Measurement and Recording Equipment shall be used for all measurements and

recording of Gas delivered at the Entry.

(b) All Gas volumes delivered at the Entry Points shall be reckoned at Standard Conditions of 14.65 PSIA and 60 deg. F.

(c) All volumetric Gas measurements shall be by Orifice metering in accordance with the recommendations of AGA No.3, 2000 edition as the same may be amended or superseded from time to time, with super compressibility factor in accordance with the recommendation of AGA No.8 as the same may be amended or superseded from time to time, employing all other relevant corrections stipulated in AGA No.3 or AGA No. 7 & 9 if an Ultra Sonic gas meter is used and the gas measuring equipment shall conform to standards contained therein or;

For that purpose:

(d) The average absolute atmospheric pressure during each Month of deliveries shall be deemed to be 14.65 PSI absolute.

(e) The volume of gas delivered shall be determined using a continuously integrating flow computer based upon data from orifice flow meters, (multi range differential pressure transmitters, pressure transmitters, and temperature transmitters) and online gas chromatograph.

(f) The specific gravity and the Gross Calorific Value of the Gas delivered shall be determined by an online gas chromatograph on C6 plus basis with continuous recording. Adequate back-up equipment will be provided to cover the periods of gas chromatograph maintenance and/or breakdown. The back-up equipment will consist of a complete duplicate gas chromatograph installed online. The specific gravity measurement and testing shall be determined to a minimum of four decimal places.

(g) The Measurement and Recording Equipment (flow computer and gas chromatograph) at the Entry Points will have the following features associated with the measurement and recording of Gas;

(i) At least 35 days alarms and events.

(ii) Hourly data of variables selected by the Transporter for a minimum of thirty five (35) days.

(iii) Retrieval of data, alarms and events (audit trial reports).

1.3 The Transporter may, at its own cost, risk and expense install downstream of the Entry Point such 'Check Measurement Facilities' as it may deem necessary to verify the volume measurement of the Gas and the Gross Calorific Value of the Gas delivered to the specified facility on any Day. If the Transporter should choose to install the Check Measurement Facilities then the Transporter shall use the procedure under Article 13 (Maintenance) to notify the shipper of such work. Such Check Measurement Facilities shall not adversely affect the operation and reliability of the shipper's Measurement and Recording Equipment or the shipper's Facilities. The shipper and the Transporter shall each have the exclusive right to operate its own measurement and testing facilities but each may present itself to witness

reading, calibration, testing and/or installation of the other Party's measurement and testing facilities. The shipper and the Transporter shall each also have the right to access at reasonable hours the other Party's measurement facilities for inspection.

(a) Every Month, the shipper and the Transporter shall jointly calibrate/verify the accuracy of measuring and recording equipment at Entry Point(s).

(b) In the event of the Measurement and Recording Equipment being out of service or registering Gas inaccurately, the volume of the Gas sold shall be estimated using one of the following methods, whichever is feasible:

(i) by correcting the error if the proportion of the error is ascertainable by calibration or test, or analytically in accordance with acceptable gas industry practice; or

(ii) by using the registration of the Transporter's Check Measurement Facilities if installed and accurately registering; or

(iii) by estimating the volume of Gas and calorific value delivered by comparison with past deliveries during a period of similar conditions when the meter was registering accurately.

1.4 If, upon test as provided in paragraph a above:

(a) Any single unit measuring equipment is found to be inaccurate within plus or minus zero decimal five percent (0.5%) of the true measured value, then previous recording of such equipment shall be reckoned as correct for computing Gas deliveries, but the equipment shall be promptly adjusted to operate/register/record correctly; continuous operation of equipment by way of treating the aforesaid allowance of plus or minus zero decimal five percent (0.5%) of true measured value as an all time tolerance in its acceptable accuracy shall not be permitted.

(b) Any single unit measuring equipment is found to be inaccurate in excess of the plus or minus zero decimal five percent (0.5%) as aforesaid under paragraph (a) above, then for the period for which such measuring equipment has been known to have been inaccurately functioning, the record/reading of such measuring equipment for the whole period shall be corrected to zero error. If, however, the period of such inaccurate functioning of measuring equipment is not known or cannot be mutually agreed upon, then for the period equivalent to one half of the time elapsed since such equipment was last found to be plus or minus zero decimal five percent (0.5%) accurate the equipment's reading/record shall be adjusted for zero error and the equipment shall be promptly adjusted to operate, register and record correctly.

(c) The working of chromatograph will be verified by calibration with certified standard calibration gas (having gas composition & calorific value close to Gas), response factor deviation and retention time, etc. as per manufacturer's specifications of the chromatograph and accuracy range. Maximum tolerance range of chromatograph shall not be more than plus or minus zero decimal point one percent 0.1 percent i.e. plus or minus 1 Btu / SCF per one thousand Btu / SCF(+/- 1 Btu / 1000 Btu).

(i) The H_2S analyzer, total sulphur analyzer and moisture analyzer will be

calibrated / verified as per their manufacturer's recommendations i.e. calibration / verification procedure and respective accuracy ranges specified by the manufacturers. The accuracy ranges of these analyzers, however, shall be less than the values provide below:-

(ii) Moisture analyzer; +/- 10% or less in case measurement range is 02500 ppmv. If the moisture analyzer has higher range than 0-2500 ppmv then the accuracy limit shall be reduced proportionately.

(iii) H_2S / COS / Mercaptans analyzer; +/- 2% or less in case measurement range is 0-30 ppmv. If the H_2S analyzer has higher range than 0-30 ppmv then the accuracy limit shall be reduced proportionately.

(iv) Total sulphur analyzer; same as (iii).

(v) Hydrocarbon dew point shall be measured by installing an online hydrocarbon dew point analyzer. The working and accuracy of the online hydrocarbon dew point analyzer shall be checked according to the manufacturer's recommendations.

1.5 The shipper shall, furnish to the Transporter the following data pertaining to the Gas supplied infrequency and by mode of transmittal as indicated:

(a) Convey to the Transporter every hour, or as may be agreed by the Transporter and shipper, the following data in regard to gas delivered at the Entry Point(s) during the preceding hour:

(i) Average volumetric flow rate in MMCFD.

(ii) Average gauge pressure in psig.

(iii) Average temperature in degrees F, and

(iv) Off-Specification gas, if any

(v) Average gauge pressure in psig measured immediately upstream of shipper's flow / pressure controller.

(vi) Average gross calorific value in Btu per SCF.

(b) Convey to the Transporter by telephone or fax or e-mail every Day, as may be agreed by the Transporter and shipper, the following data in regard to Gas delivered at the Entry Point(s) during the preceding day:

(i) Total Gas deliveries in MMSCF and MMBTU.

(ii) Average gas pressure in psig;

(iii) Average temperature in degrees F;

(iv) Average Gross Calorific Value in Btu per SCF; Average Gas Composition in

mole%;

(v) Average specific gravity;

(vi) Average Water Content in pounds per MMSCF;

(vii) Average H_2S contents;

(viii) Average Hydrocarbon Dew Point in degrees F;

(ix) Total Off-Specification gas delivered in MMSCF and MMBTU;

(x) Average differential pressure in inches of water column;

(xi) Wobbe Index.

(c) Convey by facsimile or letter Monthly, within two (2) days following the last day of the month, the following information in regard to Gas delivered during such Month at the Entry Point(s):-

(i) Daily Energy Delivered (expressed in MMBTU;

(ii) Daily Delivered volume (expressed in MMSCFD);

(iii) Average Gas composition in mole%;

(iv) Average Specific Gravity;

(v) Average gross Calorific Value in Btu per SCF;

(vi) Details about Off-Specification Gas delivered, if any;

1.6 The unit of volume for the purpose of measurement shall be one SCF of Gas. The unit of energy of Gas shall be MMBTU.

1.7 Gross Calorific Value for all Gas supplied at the Entry Point is determined from shipper's measurement and recording equipment in accordance with the relevant ASTM or Gas Processors Association (GPA) standards.

1.8 The shipper shall preserve for a period of at least two (2) years, all test data (including data obtained pursuant to paragraph 1.5 above), records and calculations applicable for gas measurement under this Appendix.

1.9 The shipper shall arrange compatible Flow / Pressure / Differential Pressure/Temperature online communication/interface facilities for the Transporter for transmission of gas supply data to the Transporter network.

1.10 shipper shall provide free and uninterrupted access to the measurement facilities at the Entry Point(s) and his premises where Exit Point (s) measurement facilities of the Transporter

are installed.

2 Gas measurement procedures for exit points and large Industrial customers

The procedure for the measurement and recording of System Gas at Exit Point(s) shall be based on the following:

2.1 The Measurement and Recording Equipment, already installed at Exit Points shall be used for all measurements and recording of Gas delivered at the Exit Points.

2.2 All Gas volumes delivered at the Exit Points shall be reckoned at Standard Conditions of 14.65 PSIA and 60 deg. F.

2.3 All volumetric Gas measurements shall be carried out by Orifice or Turbine or Ultrasonic metering in accordance with the recommendations of AGA No.3, AGA No.7 and AGA No. 9/AGA No.10 respectively, as the same may be amended or superseded from time to time, with super compressibility factor in accordance with the recommendation of AGA NX-19 or AGA No.8, as the same may be amended or superseded from time to time, employing all other relevant corrections stipulated in applicable AGA No.3, AGA-7 and AGA No.9/AGA No.10 and the gas measuring equipment shall conform to standards contained therein.

For that purpose:

(a) The average absolute atmospheric pressure during each Month of deliveries shall be deemed to be 14.65 PSI absolute.

(b) The volume of gas delivered shall be determined using a continuously integrating flow computer based upon data from Orifice flow meters, (alongwith differential pressure transmitters, pressure transmitters, and temperature transmitters) or Turbine meters (Electronic Volume Corrector (EVC) alongwith pressure transmitter and temperature transmitter) or a multi path (four path or higher) Ultrasonic flow meter (alongwith pressure transmitter and temperature transmitter).

(c) Gas quality shall be determined once in a homogenous area of transmission system (the pipeline segments of transmission system where gas of same quality flows) and same shall be applicable for all the Exit Points situated in that homogenous area.

(d) Transporter shall incorporate/feed average gas composition of preceding month in flow computers for computation of volume (MMSCF) by flow computers/ Electronic Volume Corrector (EVC) whereas energy (MMBTU) shall be determined by multiplying this volume with average GCV of relevant month.

2.4 At least once every year, Transporter shall calibrate/verify, with its Calibration gadgets, the accuracy of its measuring and recording equipment at Exit Point(s) and the other Party shall be invited, with prior Notice to other Party, except that either Party may Notify the other for a special testing to secure accuracy of any of the measuring equipment whereupon the other Party shall co-operate and arrange for such a test being undertaken and the objective of the test to be achieved, provided that such special testing shall not be carried out with unreasonable frequency.

2.5 In the event of the Measurement and Recording Equipment being out of service or registering Gas inaccurately, the volume of the Gas delivered shall be estimated using one of the following methods, whichever is feasible:

(a) by correcting the error if the proportion of the error is ascertainable by calibration or test, or analytically in accordance with acceptable gas industry practice; or

(b) by estimating the volume of Gas and calorific value delivered by comparison with past deliveries during a period of similar conditions when the meter was registering accurately; or

(c) by using the registration of check measurement facilities of the Shipper if installed as per relevant AGA No.3 (for orifice meter) or AGANo.7 (for turbine meters) or AGA No. 9 (for Ultrasonic flow meter) standards and accurately registering.

If, upon test of Orifice meter or Ultrasonic meter, as provided in paragraph 5 above:

(i) any single unit measuring equipment is found to be inaccurate within plus or minus zero decimal five percent (0.5%) of the true measured value, then previous recording of such equipment shall be reckoned as correct for computing Gas deliveries, but the equipment shall be promptly adjusted to operate/register/record correctly; continuous operation of equipment by way of treating the aforesaid allowance of plus or minus zero decimal five percent (0.5%) of true measured value as an all time tolerance in its acceptable accuracy shall not be permitted.

(ii) any single unit measuring equipment is found to be inaccurate in excess of the plus or minus zero decimal five percent (0.5%) as aforesaid under paragraph (i) above, then for the period for which such measuring equipment has been known to have been inaccurately functioning, the record/reading of such measuring equipment for the whole period shall be corrected to zero error. If, however, the period of such inaccurate functioning measuring equipment is not known or cannot be mutually agreed upon, then for the period equivalent to one half of the time elapsed since such equipment was last found to be plus or minus zero decimal five percent (0.5%) accurate the equipment's reading/record shall be adjusted for zero error and the equipment shall be promptly adjusted to operate, register and record correctly.

(iii) The working of chromatograph will be verified by calibration with certified standard calibration gas, response factor deviation and retention time, etc. as per manufacturer's specifications of the chromatograph and accuracy range. Maximum tolerance range of chromatograph shall not be more than plus or minus 1 Btu / SCF per one thousand Btu / SCF (+/- 1 Btu / 1000 Btu).

2.6 Exit point(s) where gas loads are smaller than Orifice Meter measuring range, Turbine/Rotary Meters with ECV would be used to measure and register gas volume accurately within the range of flow rates for which it is designed in accordance to AGA-7. The permissible limits of accuracy for said meters is +/-2%

2.7 Turbine/Rotary meters shall be flow proved at Flow Proving Cell of the transporter on annual basis using Transfer Prover Machines.

2.8 In case the Turbine/Rotary meter installed at the Exit Point is replaced and flow proved in the Flow Proving Cell of the transporter and at the time of flow proving it is found that the meter was recording volume either on minus or positive side over and above +/-2% permissible limits then the adjustment of the same shall be accounted for in the immediate following invoicing period and for calculating such adjustment it shall be assumed that the meter was recording minus and / or plus side for last sixty days.

2.9 At the time of Turbine/Rotary meter replacement/disconnection from exit point, if desired, shipper or his representative may be invited to Flow Proving Cell on specified date/time to witness flow proving of Turbine/Rotary meter. Flow proving results of these meters shall be final and binding on shipper. Except in the case of damage due to natural calamity, If as a result of meter inspection, it is established that meter or any allied equipment is damaged partially or fully other than due to reasons of normal wear and tear then the transporter is entitled to recover the replacement cost of that metering equipment.

2.10 The Electronic Volume Corrector (EVCs along with pressure and temperature transducers) shall be built in, mounted or separately installed with Turbine/Rotary Meters for recording and correction of un-corrected gas volume into corrected gas volume in accordance with the recommendations of AGA Gas Measurement Manual part-08 (covering Electronic Flow Computers & Transducers) latest edition and AGA Gas Measurement Manual Part-15 (covering Electronic correctors) latest edition as the same may be amended or superseded from time to time.

2.11 The EVCs measure and correct uncorrected volume of Gas at line conditions by using base Pressure of 14.65 psi and Base Temperature of 60°F with the application of super compressibility factor calculated as per AGA NX-19 or AGA 8 standards. Accuracy of the EVCs shall be within permissible limits of +/-2%.

2.12 Measurement/verification of EVC/Pressure/Temperature calibration shall be performed in accordance with the AGA Gas Measurement Manual Part-15 (covering Electronic correctors) latest edition as the same may be amended or superseded from time to time.

2.13 Transporter shall furnish to the Shipper following data pertaining to the Gas delivered at the Exit Point(s) in frequency and by mode of transmittal as agreed between the Parties:

(a) Average volumetric flow rate in MMSCFD.
(b) Average gross Calorific Value in BTU per SCF
(c) Average gauge pressure in psig
(d) Average temperature in degrees F.

2.14 The unit of volume for the purpose of measurement shall be one SCF of Gas. The unit for transportation of Gas shall be one thousand SCF expressed as `MCF'. The unit of energy of Gas shall be MMBTU.

2.15 Gas quality shall be determined once in a homogenous area of transmission system (the segments of transmission system where gas of same quality flows) and same shall be applicable for all the Exit Points situated in that homogenous area.

2.16 Gross Calorific Value for all Gas supplied at the Exit Point is determined from

measurement and recording equipment in accordance with the relevant ASTM or Gas Processors Association (GPA) standards.

2.17 Transporter shall preserve for a period of at least two (2) years, all measurement data including, records and calculations applicable for gas measurement under this Appendix.

3 Gas Measurement Procedures for Exit points (Industrial customers) on gas Distribution Network

For Exit Points, meters installed earlier by the Transporter at those locations shall continue to measure the gas and measurement standards and procedures applied earlier shall continue to be applied, however, on Month Start Date the Transporter shall ensure reading of all these meters and share the same with the shipper.

All meters, pipelines, regulators, valves, devices, and other equipment of the transporter, installed at shipper's Exit Point(s) Meter Station, shall be owned, installed, operated and maintained by the Transporter.

The Transporter shall have free and uninterrupted access, to the Shipper's Exit Point(s) Meter Stations. The shipper shall ensure transporter's representative free and unhindered access to the shipper's Exit Point(s) Meter Station for the purposes of metering system operations, maintenance of meters & allied equipment, and meter readings etc.

The procedures for the measurement/recording of Gas volume, conversion of un-corrected volume of gas passed through meters into corrected volume at the Exit points shall be based on following:

(a) All Volumetric Gas Measurement shall be done by Diaphragm or Rotary Meters or Turbine Meters manufactured in accordance with American National Standards for Diaphragm Meters (ANSI 109.1 & ANSI 109.2) or equivalent standards and American National Standards for Rotary Meters (ANSI 109.3) or equivalent standards and American National Standards for Turbine Meters (ANSI/ASME MFC-4 M) or equivalent standards latest edition as the same may be amended or superseded from time to time.

(b) Super compressibility factor shall be calculated and applied in accordance with the recommendations of AGA NX-19 orAGA-8(covering compressibility factors for gas) as the same may be amended or superseded from time to time.

(c) The units of Volumetric Measurement shall be one cubic foot of gas measured at absolute pressure of 14.65 Pounds per Square Inch and temperature of 60 degree F or equivalent in Metric Measuring System without adjustment for water vapors contents. However, required correction factors such as pressure, flowing temperature, specific gravity, deviation from Boyle's law etc shall be applied, wherever applicable.

(d) Meters measure and register gas volume accurately within the range of flow rates for which it is designed. The permissible limits of accuracy for meters is +/-2%.

(e) The Meters shall be flow proved at Meter Shops of the transporter in accordance with the recommendations of AGA Gas Measurement Manual Part-13 latest edition covering Meter proving by using transfer prover machines, as the same may be amended or superseded from time to time.

(f) The EVCs (Electronic Volume Correctors) shall be built in, mounted or separately installed with Meters for recording and correction of un-corrected gas volume into corrected gas volume in accordance with the recommendations of AGA Gas Measurement Manual part-08 (covering Electronic Flow Computers & Transducers) latest edition and AGA Gas Measurement Manual Part-15 (covering Electronic correctors) latest edition as the same may be amended or superseded from time to time.

(g) The EVCs measure and correct, uncorrected volume of Gas at line conditions by using Base Pressure of 14.65 psi and Base Temperature of 60°F and application of necessary super compressibility factor as per AGA NX-19 orAGA-8.

(h) Accuracy of the EVCs Pressure and Temperature transducers shall be within permissible limits of +/-1%. Measurement/verification of EVC/Pressure/Temperature calibration shall be performed in accordance with the AGA Gas Measurement Manual Part-15 (covering Electronic correctors) latest edition as the same may be amended or superseded from time to time.

(i) The EVCs shall apply correction factor, temperature factor and super compressibility factor on un-corrected volume of gas recorded by the meter to convert into corrected volume at base conditions. Conversion of corrected volume of the gas shall be based on following formula:

$$\mathbf{Vb = Vx\ P/Pb\ x\ Tb/T\ x\ Zb/Z}$$

Where:
Vb = Corrected volume
V = Primary volume (from LF or HF meter output)
T = Absolute gas temperature at measurement conditions
Tb= Absolute temperature at base conditions
p = Absolute pressure at measurement conditions
pb= Absolute pressure at base conditions
Z = Gas compressibility factor at measurement conditions
Zb= Gas compressibility factor at base conditions

(j) The EVCs also store different operational parameters and alarms on hourly, daily and monthly basis. These logs are prima facie evidence of tampering/fiddling with Meter/EVC at the time of MIR (Meter Inspection Report) generation.

(k) Gas quality determined once in a homogenous area of gas pipeline transportation system shall be applicable for all the Exit Points situated on distribution system in that homogenous area.

(l) At the time of Meter replacement/disconnection from exit point, if desired, shipper or his representative may be invited to Meter Shop on specified date/time to witness flow proving of Meter.

(m) Replaced/disconnected meters from the exit point shall be sent to Meter Shops of transporter as soon as possible.

(n) Flow proving results of meters at Meter Shops shall be final and binding on shipper.

(o) Meter Shops shall generate MIRs (Meter Inspection/Test Reports) of Meters disconnected/replaced from exit points within three weeks after receiving of Meters at Meter Shops.

(p) MIRs (Meter Inspection/Test Reports) issued by Meter Shops shall be final and binding on the shipper.

(q) In case the meter installed at the Exit Point is replaced and flow proved in the metering workshop of the transporter and at the time of flow proving it is found that the meter was recording volume either on minus or positive side over and above 2% permissible limits then the adjustment of the same shall be accounted for in the immediate following invoicing period and for calculating such adjustment it shall be assumed that the meter was recording minus and / or plus side for last sixty days.

(r) If the shipper so desires it can request Meter flow proving of any of its exit points and the transporter shall arrange such facility on payment of the cost which will be worked out by the transporter at the start of every fiscal year. The shipper has the right to witness the flow proving, however, decision of the flow proving team shall be final and binding on the shipper.

(s) The transporter may replace a meter installed at the exit point at any time to ensure measurement accuracy and shipper shall not have any objection to this right of the transporter.

3.2 For calculation of gas consumed by the customer of the shipper during malfunctioning of the measurement equipment, tampering of any of the measuring equipment and / or direct bye pass / pilferage of gas by the shipper or by any of its customers, following SOP shall be followed:

(a) In case the meter malfunctions as a result of normal wear and tear then the gas consumed during malfunction period at the relevant Exit Point shall be calculated on the basis of higher of the consumption in (a) preceding two months and (b) succeeding two months.

(b) In case of Electronic Volume Corrector (EVC) malfunction or mismatch , Billing shall be carried out on meter mechanical counter reading, the corrected volume for malfunction period shall be calculated by applying correction factor as follows:

(i) EVC correction factor of 30 days prior to the failure of the EVC.

(ii) If the data as mentioned at (i) above is not available or there is any inconsistency in that data then average EVC correction factors manually recorded of last 2 visits of particular meter will be used.

(c) In case of computation / configuration error, the under measured volume shall be the charged as per the actual period.0

(d) In case of tampering and / or direct b pass / pilferage of gas, volume consumed at the Exit Point shall be calculated in accordance with the Authority Procedure for Dealing with Theft of Gas. The pilferage amount shall be paid by the shipper to the Transporter.

(e) Except in the case of damage due to natural calamity, If as a result of meter inspection, it is established that meter or any allied equipment is damaged partially or fully other than due to reasons of normal wear and tear then the transporter is entitled to recover the replacement cost of that metering equipment.

Most of the above instances are likely to be known as a result of flow proving of the meter at Metering Shop (MS) and the personnel deputed there are expert in their field, therefore, the Meter Inspection Report (MIR) issued by MS shall be final and binding on the parties.

APPENDIX E: CAPACITY ALLOCATION METHODOLOGY

(CAM)

Capacity Allocation Methodology shall comprise the following:

1- Determination of Capacity of Entry Points and Exit Points on Transporter's Gas Pipeline Transportation System.
2- Capacity Allocation Procedure.

1-Determination of Capacity of Entry Points & Exit Points

Maximum transportation capacity per day of an Entry Point and Exit Point on Gas Pipeline Transportation System shall be determined taking into account the System Integrity, operational requirements, location, time of the year and any other technical or regulatory constraint. Diverse approach shall be applied for determination of capacities of Entry Points and Exit Points on Transmission System & Distribution System due to different nature of their designing, day to day operational constraints / requirements.

(i) Entry Points on Transmission System:

Entry Points of Transmission System are interconnection points with the Connected System like that of Transporter and the injection points of Gas Fields.

(a) Capacity of interconnection points shall be calculated with the help of appropriate software being used in gas industry taking into account the following factors:

- Composition of gas
- Delivery temperature of gas
- Amount of line pack required in the system
- Minimum delivery pressure of gas required
- Minimum off-take pressures required by Shippers at Exit Points
- Flow rate scenarios on the Gas Pipeline Transportation System
- Location of Entry Point
- Time of year
- System Integrity
- Any other technical or regulatory constraint

(b) Capacity of injection points of gas fields/ RLNG injection point depends on the delivery pressure by the gas producers at these injection points. Average day flow passed through these points during the previous month shall be the entry capacity of these points.

(ii) Capacity of Exit Point of Transmission System:
There are two types of Exit Points on Transmission System

a. Sales Meter Stations-cum-Consumer Meter Stations: These are the Exit Points on Transmission System from where gas is directly supplied to the consumers without

entering of the same into Distribution System. Capacity at these Exit Points shall be determined on the same method as illustrated for Entry Points on Transmission System.

b. Sales Meter Stations (SMSs): These are Exit Points on Transmission System from where gas is delivered into Distribution System and shall serve as Entry Points for Distribution System. Capacity of these points shall be the same as given under the Capacity of Entry Points of Distribution System.

(iii) Capacity of Entry Point of Distribution System:
The Capacity at the Entry Point of Distribution System i.e. SMS will be as per gas carrying capacity of downstream distribution network, which will be based on the downstream operating pressure of respective SMS specified by the transporter after taking into account the system integrity, operational requirements, location and time of the year.

(iv) Capacity of Exit Point of Distribution System:
Exit Point Capacity of Distribution System will be worked out on the basis of aggregate committed consumer loads (for summer and winter seasons separately), including TL and SUG, at network downstream of respective SMS. Available Capacity will be worked out for each SMS based on the SMS Entry Capacity and committed consumer loads.
Request for transportation service at any specific location will be evaluated by the Transporter on case-to-case basis, keeping in view the system operational constraints, system integrity, location and time of the year. The Transporter may consider request of the Shippers for provision of transportation services at any point in the distribution system, subject to proven technical constraints and the expansion or extension of the gas pipeline transportation system where such expansion is economical or where the Shipper is willing to bear the cost of the required infrastructure.

(v) Capacity Declaration by Transporter:
The Transporter shall publish on its website, and report to the Authority, not later than five (5) days prior to the expiry of each calendar month, the level of available capacity as well as supplemental information as listed in the "Form For Declaring Capacity Of Gas Pipeline Transportation System By Transporter" provided in Appendix F of Pakistan Gas Network Code

2. Capacity Allocation Procedure:

In accordance with Third Party Rules 2018 and Pakistan Gas Network Code, Transporter shall allocate Entry Point and Exit Point Capacity to Shipper on First Come First Served Basis, in the following manner:

i. Shipper will submit application for allocation of firm or interruptible capacity, at relevant Entry Point(s) and Exit Point(s), to the Transporter's Commercial/Sales department.

The capacity application shall include the following information:

a. The identity of the Shipper;
b. The Entry Point and Exit Point where the Shipper wishes to hold such capacity;
c. The proposed capacity start date, the proposed capacity end date and the capacity duration, which shall be for a period of not less than one (1) year for the firm capacity and not more than [six (6) months] for the interruptible capacity (or such other period as may be approved by OGRA)
d. The amount of the capacity applied for (expressed in MMSCFD); and
e. Whether the capacity requested is firm or interruptible.

ii. The Transporter shall examine the Application whether the Shipper has provided all the required information and, may advise the Shipper for provision of the additional required information. Transporter may:

a. reject an application which does not comply with the requirements of the network code, or where the requested capacity is greater than the amount of relevant available capacity during the proposed capacity duration, and specify the reasons thereof; or
b. approve an application, which does comply with the requirements of the network code, and where the requested capacity is less than or equal to the relevant available capacity.

iii. The Transporter will, within [fourteen (14)] business days of receipt of the application, notify the Shipper in writing whether the application has been approved or not, and if it has been approved, register the Shipper as holding capacity in relation to the relevant Entry Point and Exit Point in the amount and for the capacity duration applied for by the Shipper in the capacity register with effect from the date of approval and, if the application has not been approved, specify the reasons thereof.

iv. The Transporter shall consider applications and shall allocate capacity to the Shipper(s) at each Entry Point and Exit Point on a first-come-first-served basis, and shall report each capacity allocation to the authority within seven (7) days of the allocation.

v. No capacity below a threshold level of 05 MMCFD at Entry Point(s) shall be allocated by the Transporter to a single Shipper on the Gas Pipeline Transportation System. In case of more than one entry points, there shall be minimum capacity threshold of 02 MMCFD per Entry Point, provided that the cumulative threshold of all the entry Points will not be below a threshold level of 05 MMCFD.

APPENDIX F: PARTICULARS FOR DECLARING CAPACITY OF GAS PIPELINE TRANSPORTATION SYSTEM BY TRANSPORTER

S/N	Description
1.	Name of transporter:
2.	Entry and Exit point(s) Location-wise Capacity in MMSCF:
	(a) Contracted
	(b) Available
3.	Technical parameters:
	(a) Inlet pressure at entry point
	(b) Calorific value band at entry point
	(c) Temperature
	(d) Gas Specifications
4.	Status of extra capacity available or to be made available in the gas pipeline transportation system.
5.	Details of capacity, along with volumes, period and date of allocation, being used by transporter itself or allocated to shippers
	(a) Used by transporter,
	(b) Allocated to each shipper.
6.	Any demand pending with the transporter for capacity allocation along with duration of such pendency.
7.	For Distribution system, capacities to the extent of operationally feasible supply mains will be updated.