



Unaccounted For Gas (UFG) Report (Q1-FY21)

Government of Pakistan

Petroleum Division, Ministry of Energy

1. Introduction:

The two public sector gas utility companies i.e. M/s Sui Southern Gas Company Limited (SSGCL) and M/s Sui Northern Gas Pipelines Limited (SNGPL) under licence granted by Oil and Gas Regulatory Authority (OGRA) are engaged into transmission and distribution/sale of natural gas in the country in their respective franchise/ area. OGRA Ordinance, 2002, Tariff Rules and the Licence condition empowers the Authority (OGRA) to determine total annual revenue requirement of the gas companies. OGRA introduced much awaited new tariff regime for regulated natural gas sector in Pakistan with effect from 01.07.2018. The determination of annual revenue requirement takes into account the determination of Unaccounted For Gas (UFG) allowance and disallowance to the gas companies.

UFG is a phenomenon of gas loss which is contingent upon occurrence of various technical factors when gas flows from fields to end consumers. It is calculated as the difference between metered gas volume injected into the transmission and distribution network (Point of Dispatch/Delivery) and the metered gas delivered to the end consumers (Consumer Meter Station) during a financial year. Adjustments on account of self-consumption etc. in the operations of gas utilities are also accounted for in UFG determination. OGRA being the regulator, determines and fixes UFG benchmark of the both Sui Companies. Pursuant to UFG determination by OGRA for each year any percentage / value of UFG above the fixed benchmark treated as disallowance and deducted from the revenue of the gas utility companies. In 2017, OGRA under took a UFG study through independent consultant vis M/s KPMG Taseer Hadi & Co. Chartered Accountants who submitted their final report on 11.07.2017 which was forwarded by OGRA to gas companies for implementation and compliance on 30.08.2017. Based on the said UFG Study following formula was recommended for calculation of UFG:

$$\text{UFG\%} = \frac{\text{Gas received} - \text{Gas Delivered} - \text{Adjustments}}{\text{Gas received}}$$

Further a two-component formula for calculating UFG allowance was recommended as under:

$$\text{UFG Allowance} = \text{Gas Received} \times (\text{Rate1} + \text{Rate2} \times \beta)$$

Rate1= Technical Component (Inherent gas loss in the system)

Rate 2= Local Challenging conditions component (Pakistan specific)

β =Performance factor (Key Monitoring Indicators - KMIs)

Rate1 is the benchmark fixed rate based on prevalent conditions / infrastructure in the areas of the operation of the sui companies and same is fixed at 5% for the next five years. The fixed rate also includes allowance for transmission losses which is calculated upto maximum 0.5%. Rate2 is the allowance for local challenging conditions as compared to the world at large. This factor is suggested to cover impact of gas losses due to expanding gas supply network in retail including law & order affected areas and making it more prone to theft, leakages, data / meter errors and non-recovery of gas bills from law and order affected areas. Allowance for these challenging conditions is fixed at a maximum of 2.6%. In order to ensure appropriate and serious efforts are directed towards reducing UFG over the agreed term of five (5) years, the local challenging conditions component has been linked to the achievement of KMIs. To compute and evaluate Estimated

Revenue Requirements (ERRs) for prospective years, the Rate 2 will be taken at 50% and the same will be actualized in line with the achievement of proposed KMIs during the respective Final Revenue Requirements (FRRs) of the gas companies.

2. Approved Targets

The present Government decided to take corrective measures in the reduction of UFG since UFG disallowances has a significant impact on the revenues of the company which in turn has a compounding impact on the revenue shortfall of the gas utility companies. In this regard, a three-year UFG Reduction Plan for both Sui Companies was approved by the Economic Coordination Committee (ECC) of the Cabinet and same was ratified by the Federal Cabinet. The ECC approved three-year UFG reduction targets of both Sui Companies are given below:

Table: Three-year UFG reduction total targets including both components of the plan in volumetric and percentage terms.

Company	Expected Contribution in UFG Reduction							
	FY 2019-20		FY 2020-21		FY 2021-22		Total	
	UFG Reduction Target		UFG Reduction Target		UFG Reduction Target			
	% age	Volume (MMCF)	% age	Volume (MMCF)	% age	Volume (MMCF)	% age	Volume (MMCF)
SNGPL	1.50%	6,840	1.25%	5,700	1.25%	5,700	4.00%	18,240
SSGC	1.87%	7,965	4.81%	20,462	2.87%	12,202	9.55%	40,629

The break-up above approved reduction plan for each utility companies is provided hereunder:

SNGPL

Component	Description	Expected Contribution in UFG Reduction							
		FY 2019-20		FY 2020-21		FY 2021-22		Total	
		% age	Volume (MMCF)	% age	Volume (MMCF)	% age	Volume (MMCF)	% age	Volume (MMCF)
1	Accumulated reduction to be collectively achieved by 16 Nos. Distribution Regions through execution of 30 No. Key Monitoring Indicators (KMIs) advised by OGRA, subsequent to approval of UFG Study Report prepared by Consultants	0.75%	3,420	0.50%	2,280	0.50%	2,280	1.75%	7,980
*2	Reduction in Transmission & Distribution Losses in Law & Order Affected Areas of KPK through close liaison and essentially required administrative support of law enforcement agencies	0.75%	3,420	0.75%	3,420	0.75%	3,420	2.25%	10,260
	Total (Approx.)	1.50%	6,840	1.25%	5,700	1.25%	5,700	4.00%	18,240

* This component is being implemented in three Phases. First Phase has been approved and will be completed by 30.06.2021

SSGCL

Component	Description	Expected Contribution in UFG Reduction							
		FY 2019-20		FY 2020-21		FY 2021-22		Total	
		%age	Volume (MMCF)	%age	Volume (MMCF)	%age	Volume (MMCF)	%age	Volume (MMCF)
1	Reduction of UFG against physical activities and OGRA KMI 30 No.	1.87%	7,965	2.46%	10,462	2.87%	12,202	7.20%	30,629
*2	Savings by implementation of fixed billing tariff at Balochistan	0%	0%	2.35%	10,000	0%	-	2.35%	10,000
	Total (Approx.)	1.87%	7,965	4.81%	20,462	2.87%	12,202	9.55%	40,629

* This component is yet to be approved by Government being a separate proposal. In the case if it nor considered by the Government to be a rational component in terms of its efficacy then the same will stand excluded from the three-year plan of SSGCL

3. Quantitative Analysis of the Various Initiatives and Measures

Various initiatives and measures taken by the gas utility companies to achieve their targets are shown below:

SSGC

Quarterly Progress on UFG reduction activities 2020-21

Target Activities	Unit	UFG REDUCTION TARGETS AND ACHIEVEMENTS	
		1st Quarter	
		Targets	Achieved
Network Segmentation	Nos.	18	13
Rehabilitation of old leaking Pipelines	KMs	88	33
Underground Leak Survey	KMs	3,550	3,405
Overhead Leak Survey & Repairs	Nos.	222,400	252,811
Defective Meter Replacement (Domestic)	Nos.	70,750	43,440
Theft Detection (Domestic)	Nos.	43,400	42,817
Theft Detection (Industrial & Commercial)	Nos.	190	495
Theft Detection (Unregistered)	Nos.	104	243
Detail survey (Industrial)	Nos.	154	242
Industrial Meters Proving	Nos.	258	330

UFG SAVINGS	MMCF	2,551	909
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Table: Different activities performed by SSGC to reduce the UFG during FY 2019-20.

As provided here above, SSGCL was able to reduce UFG by 909 MMCF during first quarter, however, the targeted reduction of 2,551 MMCF could not be made owing to on-going activity of network segmentation and rehabilitation of old leaking pipelines. SSGCL has been advised to expedite the progress on these targets so that progress could be reported in second quarter of current FY21 on these counts.

SSGCL has reported the progress on UFG reduction as under:

SSGCL	
Year	Jul-Sep
2020-21	13,728
% CY	14.4%
2019-20	14,637
% LY	14.8%
Variance	(909)
%	-0.3%

Table: Comparison of Q1 FY 2020 and Q1 FY 2021

SNGPL

Quarterly Progress on UFG reduction activities 2020-21

Target Activities Under KMIs	Unit	UFG Reduction Activities Performed FY 2020-21	
		1st Quarter	
		Jul-Sep	
		Target	Achievement
Rehabilitation of old leaking Network	Km	891 Km network has been planned to be replaced during current FY 2020-21. However, during 1st Quarter Job Numbers have been issued and NOCs from outside Agencies have been obtained for execution of subject task.	
Underground Leak Survey & Rectification of detected Leakages	No	9,219	10,533
Aboveground Leakage Survey & Rectification	No	176,433	176,433
Industrial Meter Replacement (Defective, Schedule, Suspected/Tampered etc)	No	*	1,489
Commercial & Special Domestic Meter Replacement (Defective, Schedule, Suspected/Tampered etc)	No	*	3,994
Domestic Meter Replacement (Defective, Schedule, Suspected/Tampered etc)	No	*	85,343
Theft Detection - Industrial	No	*	11
Theft Detection - Commercial	No	*	886
Theft Detection - Domestic	No	*	14,410
Theft Volume Booked	MMCF	*	401
Theft Detection- Unregistered (Non Consumers)	No	*	43
Industrial Vigilance - Detailed survey	No	11,307	11,145
Commercial Vigilance - Detailed survey	No	61,323	59,217
UFG SAVINGS	MMCF	1425	1567

* Monthly targets could not be ascertained in view nature of the ongoing activities so the actual progress on each has been reported.

As provided here above, SNGPL was able to reduce UFG by 1567 MMCF during first quarter as against the target of 1425 MMCF.

SNGPL has reported the progress on UFG reduction as under:

SNGPL	
Year	Jul-Sep
2020-21	10,146
% CY	10.1%
2019-20	11,713
% LY	11.66%
Variance	(1,567)
%	-1.6%

Table: Comparison of Q1 FY 2020 and Q1 FY 2021
