Linking gas supply to power plant efficiency

By Khaleeq Kiani

AFTER losing over Rs1.6 trillion over four years as power sector 'subsidy', the government is considering allocation of gas to power plants on the basis of their efficiency to control the growing electricity costs and the worsening energy deficit.

In a policy note to the ministry of petroleum, the power ministry has suggested that instead of wasting scarce gas to meet contractual obligations, priority should be given in gas supply to power plants based on efficiency. That would encourage power producers to modernise and upgrade their plants.

This comes amid saner voices from within the ranks of the National Electric Power Regulatory Authority (Nepra) that tariff setting is based on flawed methodologies and serious legal and financial irregularities. To his credit, Nepra's member from Khyber Pakhtunkhwa Shaukat Ali Kundi has been writing dissenting notes on repeated tariff increases under monthly fuel price adjustment.

In his latest note last week, Mr Kundi pointed out that serious inefficiencies prevailing in the public sector generation companies highlighted by the Nepra in August 2011 still persisted and generation companies were still generating electricity at much higher cost, thereby burdening the end-consumers for no fault on their part, contributing to the miseries of the consumers and pushing the power sector into a quagmire.

The list of inefficiencies noted by Mr Kundi is a long one including neglect of scheduled maintenance and non-replacement of damaged parts in time.

At the same time, the plants are operated on higher auxiliary consumption at very low efficiency and heat rates marked by non-installation of fuel flow meters, with no dependable capacity and heat rate tests.

He also questioned the legality of the generation tariff and outdated licences. These shortcomings also included non-filing of fresh tariff petitions for generation tariff on the basis of test results, absence of in-house studies to find out the reasons for higher auxiliary consumptions, non-installation of Chromatographs meters at incoming source of the gas in power plants even though the useful lives of the plants had expired but they were still in operation.

"In my view, in the absence of rehabilitation and replacement and due diligence of power plants; useful life therein terms of their licences has expired, the generation of electricity from these inefficient and outdated power plants is not only un-lawful but also against the public interest", said Mr Kundi.

Even before that an independent engineer associated with Sustainable Development Policy Institute (SDPI) – an Islamabad based think tank – Arshad Abbasi had complained to the prime minister, the ministers for power and finance that the illegal and unjustified Tariff Differential Subsidy (TDS) was being paid to the KESC and other IPPs in connivance with Nepra for the last couple of years. In financial year 2011-12 alone, the government disbursed Rs419.018 billion to IPPs and Rs45.238 billion to the KESC as TDS.

He pointed out that the case of KESC was altogether different as the company was privatised in 2005 with the objective that it would not overburden the national exchequer seeking subsidies in the future. However, subsidy the KESC has received so far was higher than other power distribution companies and even higher than the total annual budget allocation for health, education, research for science and technology, environment protection, housing and social protection.

Based on the KESC's public record available with the nepra, Mr Abbasi noted that six KESC power plants were operating at energy efficiency ranging between 25 per cent and 37 per cent. "There is no iota of doubt that the KESC is constantly submitting data of electricity generation of its thermal power station with abnormally high heat-rate and low efficiency". The KESC's plants heat rate varied between 9,500 to 13,700 kwh per British Thermal Unit.

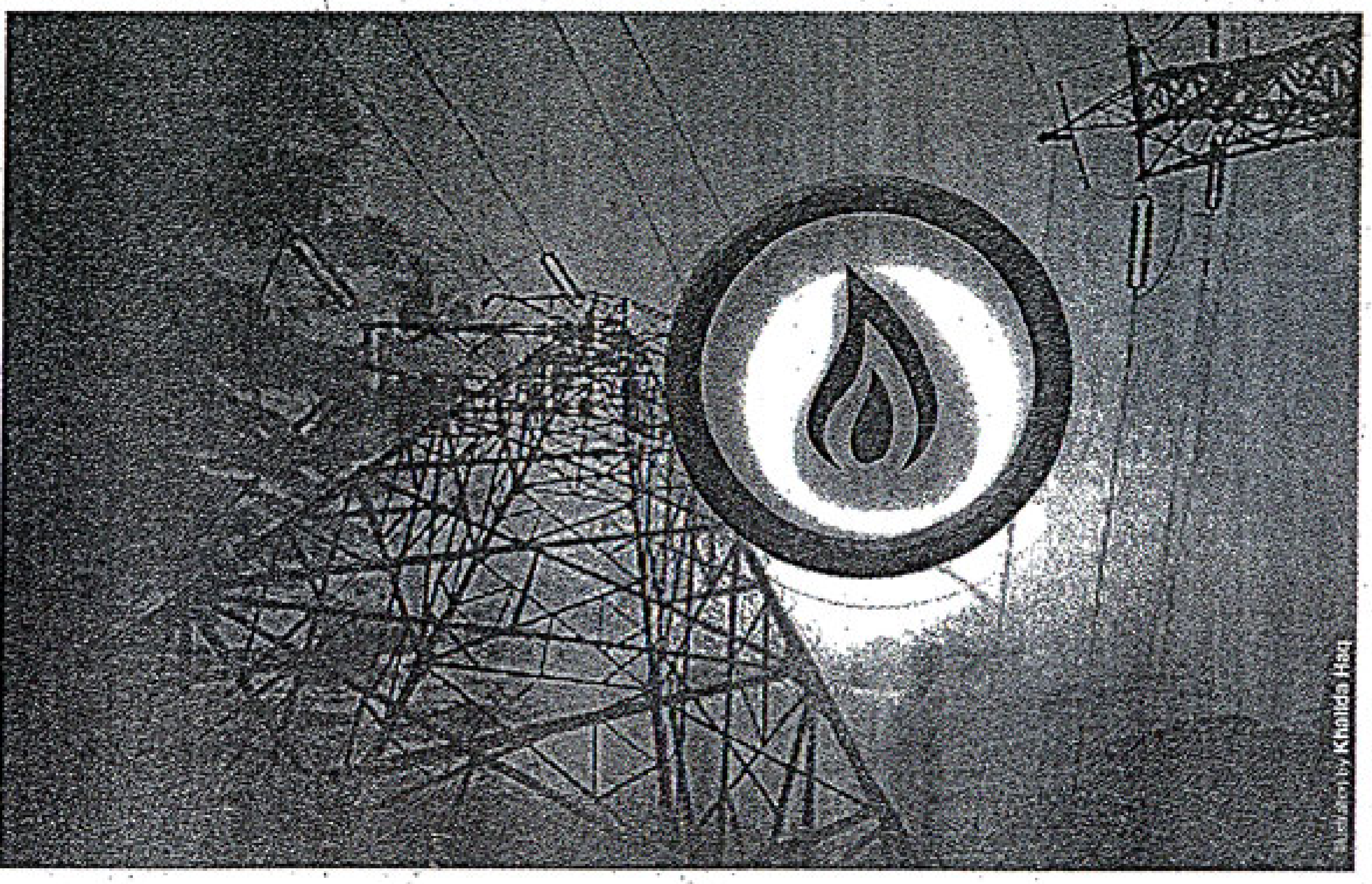
He told the top government offices that tariff differential subsidy is directly proportional to thermal plants' efficiency and heat-rate, as when heat-rate is high and efficiency is low, the fuel consumption will be high. If the plants are new and combined cycle type, as claimed by the KESC, their heat-rate should be around 5,700 KWh/Btu and efficiency around 60 per cent.

He compared a number of power plants operated by private power producers to suggest that the KESC's energy output was too low when compared with IPPs. That is why the KESC demands fuel adjustment charges in the form of TDS. In fact, Nepra as a national regulator has failed to carry out its fundamental responsibility. He quoted examples from India, Iran, Russia and many other countries to prove that power plants run by the KESC and the Wapda were too expensive and inefficient.

When the gas is considered scarce and precious, the use of every cubic feet gas has to be optimised for maximum benefits. Subsequently, the situation demands for strict regulatory measures for all power producers. The case of heavy subsidy paid to the KESC and IPPs needs to be probed in different dimensions.

Besides, there is an immediate need to expose hidden hands responsible for the depletion of gas reserves, Mr Abbasi demanded and added that electricity demand could be met by utilising the same quantity of gas and oil currently being consumed by inefficient plants to end circular debt and eradicate subsidies.

While most of the countries have introduced plant operation norms by fixing heat-rate for gas, oil and coal based thermal power stations, the Nepra despite the scarcity of gas and high cost of furnace oil has not incorporated fuel efficiency indicator in "Power Generation Standard".



His assertions have been substantiated by a former general manager of Wapda Mohammad Amjad who wrote a confidential report to the secretary finance Abdul Wajid Rana to look into the matter instead of "just continue paying tariff subsidy to the KESC without ensuring veracity of its claims being pushed through Nepra, unchecked".

Mr Amjad said in the successive quarterly determinations, adjustments for the regulated transmission and distribution loss target was being curtailed to the increase in average fuel cost over the previous quarter only while it should be against the reference fuel cost.

"This rebase of reference tariff every quarter for passing loss adjustment is not in line with the KESC multi-year tariff framework. Wrong methodology has resulted into billions of rupees being illegally passed to the KESC".

Based on publicly available record, the former Wapda official said since approval of multiyear tariff in 2009, the KESC tariff has almost doubled with a net increase of over Rs8 per unit, which on proper methodology should not have been more than Rs5.

The KESC was allowed full pass through of fuel cost provided it submitted details of its stations and separate accounts for generation, transmission and distribution which was not available for public scrutiny.

"Be it collusion or naivety of Nepra, no transparency, and no checks and balances were applied. A so-called invoice passed by Nepra each month/quarter/year is to be paid by finance ministry un-audited.

"The impact of such discrepancies is not limited to single period or year but pervasive with infinite financial consequences, as the revised tariff becomes baseline for the next period and so on and so forth even though dissenting notes were written by two Nepra members", Mr Amjad concluded.