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A DISCOURSE ON THERMAL GERNERATION POLICY: PRIVATE SECTOR VS. PUBLIC SECTOR

BY

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This symposium has chosen a very apt and pertinent subject which will affect the lives of all those living in Pakistan for decades to come.

It is courageous on the part of Engineering Congress to select this topic and thus address the various issues involved. The Engineering Congress carries a lot of prestige and we hope its recommendations will be given proper consideration.

All living septuagenarians, have seen the days of the private sector. We have lived with the following companies:

1. **LESCO: LAHORE ELECTRIC SUPPLY CO.**
   Its coal fired power station at shahdara was feeding Lahore. Its rotary converter sub-stations were in existence when Pakistan was born.

2. **REPCO: RAWALPINDI ELECTRIC POWER COMPANY.**
   It was feeding Rawalpindi and had branches in Jehlum and elsewhere.

3. **MESCO: MULTAN ELECTRIC SUPPLY CO.**
   I will come to later.

4. **KESCO: KARACHI ELECTRIC SUPPLY CO**
   It is a living example before us.

In 1948 I was assigned the duty of inspecting the diesel running stations at Chakwal, Talagang and Pindi Gheb, to check whether the exodus of Hindus affected their working. Fortunately those were still running. In 1956 we still had diesel stations running at Arifwala, Burewala, Pakpattan and Vehari, just to name a few, as P.W.D Electricity Branch was administering all these electric supply undertakings.

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Most of these stations were charging a tariff of 10 annas to 12 annas per unit (Re. 0.62 to Re. 0.75) when Punjab P.W.D Electricity Branch had a tariff for the domestic / industrial consumers of 2 annas / unit (Re. 0.125) to 4 annas a unit (Rs. 0.25).

Thus the private sector was charging 300 to 500 % more than the public sector.

In each area the consumers were clamouring for more power from WAPDA, as it was much cheaper. The policy of the Government of Pakistan (GOP) was not to renew licenses of these private companies. In Multan the situation became interesting when the license was not revoked so WAPDA was advised to run their electric feeders in parallel with feeders of MESCO, in order that the consumer got their connections from the source of their own choice.

Jumping through the decades of sixty, seventy and eighty we suddenly find in mid-ninety that Government of Pakistan (GOP) has reversed its policy in toto, from public sector back to private sector. This is serious, and a negation of a constitutionally authorised Authority, to be denied one of the functions that it was created for . This is a direct expensive hit at the common man's interest.

Admittedly, WAPDA's linemen, meter readers and engineers up to level have adopted corrupt practices to fill their own pockets with the connivance of the consumers. In addition load shedding has added to the woes.

But the private sector will eat into the very vitals of all sectors of economy, and God forbid, rampant inflation will kill whatever little is left.

The package for private generation of power is so attractive for the investors that a lot of industrialists are putting up their own plants. So power demand will decrease, more and more. (Refer Annexes I and II)

The policy of reducing import duties has made foreign goods cheaper than those produced within the country. With indigenous products becoming more expensive, factories are closing down so the demand for power is decreasing.

When the over-sized MOU units get mobilized and commissioned, the demand may have decreased to an extent that units will lie un-used. *GOP*

has guaranteed payment even for dormant units. Where will this money come from?.

If energy is not produced, it is not sold, so how will the money be recouped that has to be paid for stand-by generation plant?.

As engineers we are confronted with two basic challenges: for solving thermal generation problems we face technical challenges as well as economical challenges. Technical problems though complex are not the main issue for my talk. Fundamentally we have to seek the most economical solution for the common goal for the common man.

Just before retirement from WAPDA , I went on deputation to O.G.D.C as G.M. Engineering during 1978. I was extremely impressed by the radical changes and latest techniques fro exploratory wells brought about by Dr. Shahzad Sadiq, who said that the right bank of Indus is practically almost " floating on oil and gas" . From Attock, and Chakwal areas in the north, to Dodhak oil fields near Taunsa in the central region, with Pikoh gas (un-tapped) reservoir in Balochistan, and Sui in the southern region, there are enormous potentials which are lying untapped. Even on the east of Indus at Dharki, we have the Esso fertilizer plant utilizing another gas reserve.

The truth is that the British Shell at Attock never raised their well-output above 10,000 barrels per day (bpd). Whenever it fell to 7,000 or 6,000 bpd they drilled another well or two and came back to 8,000 bpd or 9,000 bpd and so it continued for six the seven decades-simply because they did not want to expand their refining capacity of 10,000 bpd at Attock Refinery.

Government of Pakistan took a bold step when O.G.D.C's initial control was given to Russia for a decade or more. But Russian derricks and rigs did not have the capability to drill beyond 8,000 ft. No oil was struck and " gas wells' were capped off as " unyielding" ones. We needed rigs for capability beyond 10,000 ft. for oil to be struck. Most foreign companies do not have Pakistan's interest at heart. Pakistani engineers and drillers who are working abroad have to step in and fill the gap. O.G.D.C. output of OIL, GAS, LPG and Sulphur is shown for 1994-95 in Annex-III.

In Saudi Arabia, water is sold at SR 3 per litre. which is ten times more costly than petrol. Each country decides its own economic pattern. As Pakistanis, it is our bounded duty to look after our own interests and not to follow the dictates of others.

If water for us is Nature's reward, gas also is Nature's reward for Pakistan. If colossal sums can be spent for large dams and reservoirs, for diversion of rivers and major irrigation works, and no *charges are levied for water.* It is our prerogative to do so. Similar but smaller sums are needed for tapping of gas reservoirs and running trunk pipe-lines to feed thermal stations.

RECOMMENDATIONS

1. Just as water is a natural resource, similarly gas reservoirs are natural sources for Pakistan. Prices of gas should not be increased to suit the west, but instead determined by the purchasing power of Pakistan's common man.

2. Government of Pakistan (GOP) should allow for competitive reasons, both the Public and Private Sector generation to function side-by-side.

3. WAPDA has been debarred from building new thermal stations. This order should be revoked. It should be allowed to continue to equip their extensions for Thermal Stations, and build new ones by self-financing schemes, wherever and whenever needed.

4. Government of Pakistan (GOP) should apply brakes and curtail excessive investments which may become a burden to the exchequer for future generations by strictly eliminating all who have not succeeded in attaining their FINANCIAL CLOSE by end December 1995 (So that we may not keep on living, on false promises which do not fructify-just as nuclear plants were denied to us in the past).

CONCLUSION

5. We do not want our future generations to be left with any Debt-Servicing. Final guiding principle should be to live within our means, and not mortgage the country's interest.

6. A BALANCE OF BOTH PUBLIC AND PRIVATE SECTOR IS TO BE MAINTAINED FOR OPTIMUM RESULT

Annex-i: Procedure For Calculation Of Bulk Power Tariff

Annexe-ii: Seasonal-Cum-Time Of Day Tariff For Power Sellers under Industrial Self-Generation Scheme

Annexe-iii: O.G.D.C Output 1994-1995
(Graph)

ANNEX-I

PROCEDURE FOR CALCULATION OF BULK POWER TARIFF

1. The break-up of the Bulk Power Tariff for first ten years is as under:-

		Average Tariff-Years 1-10
a	**Energy Price (Rs./kWh)**	
	Fuel	0.621
	Variable O & M	0.030
	Total:	**0.651**
b	**Capacity Price (Rs./kWh)**	
	Escalable Component	0.359
	Non-Escalable Component	0.822
	Foreign Exchange Risk Insurance	0.120
	Total:	**1.301**
	Total Tariff	1.952
	US Cents / kWh	6.50
	Levelized Tariff at a discount rate of 10 %	US Cents 5.91/kWh Rs. 1.776/kWh
	Premium for first 10 years, to be paid on actual energy sold, for projects commissioned upto December 31	US Cents 0.25/kWh Rs. 0.075/kWh
c	**Capacity Price (Rs. / kW / Month**	
	Escalable Component	157.2
	Non-Escalable Component	360.0
	Foreign Exchange Risk Insurance	52.6
	Total:	**569.8**
	Total (US $ /kW/Month	**19**

The Tariff is based on certain assumptions which are described in para 5.

2. **CALCULATION OF CAPACITY PRICE AS RS. / KW / MONTH**
The Capacity Price (CP) as Rs. / KW / Month can be calculated as follows:
Rupees / kW / Month = CP Rs. / kWh x kWh sold at 60% plant factor ÷Total Capacity kW ÷ Number of Months

$$= 1.301 \times 525.6 \times 10 \div 100 \times 10^3 \div 12$$

= **Rs. 569.8/kW/Month**

ANNEX-II

SEASONAL-CUM-TIME OF DAY TARIFF FOR POWER SELLERS UNDER INDUSTRIAL SELF-GENERATION SCHEME

The following seasonal-cum-time-of-day .ariff will be applicable for industrial self-generators and for consumers who will use WAPDA supply only in case of emergencies or overhauling of their own power plants, so that they may have a strong incentive to spare power when it has high value for national economy.

Sale by WAPDA / KESC

Peak rates:	Ps. 228 /kWh + FAS
Off-peak rates:	Ps. 114 /kWh + FAS

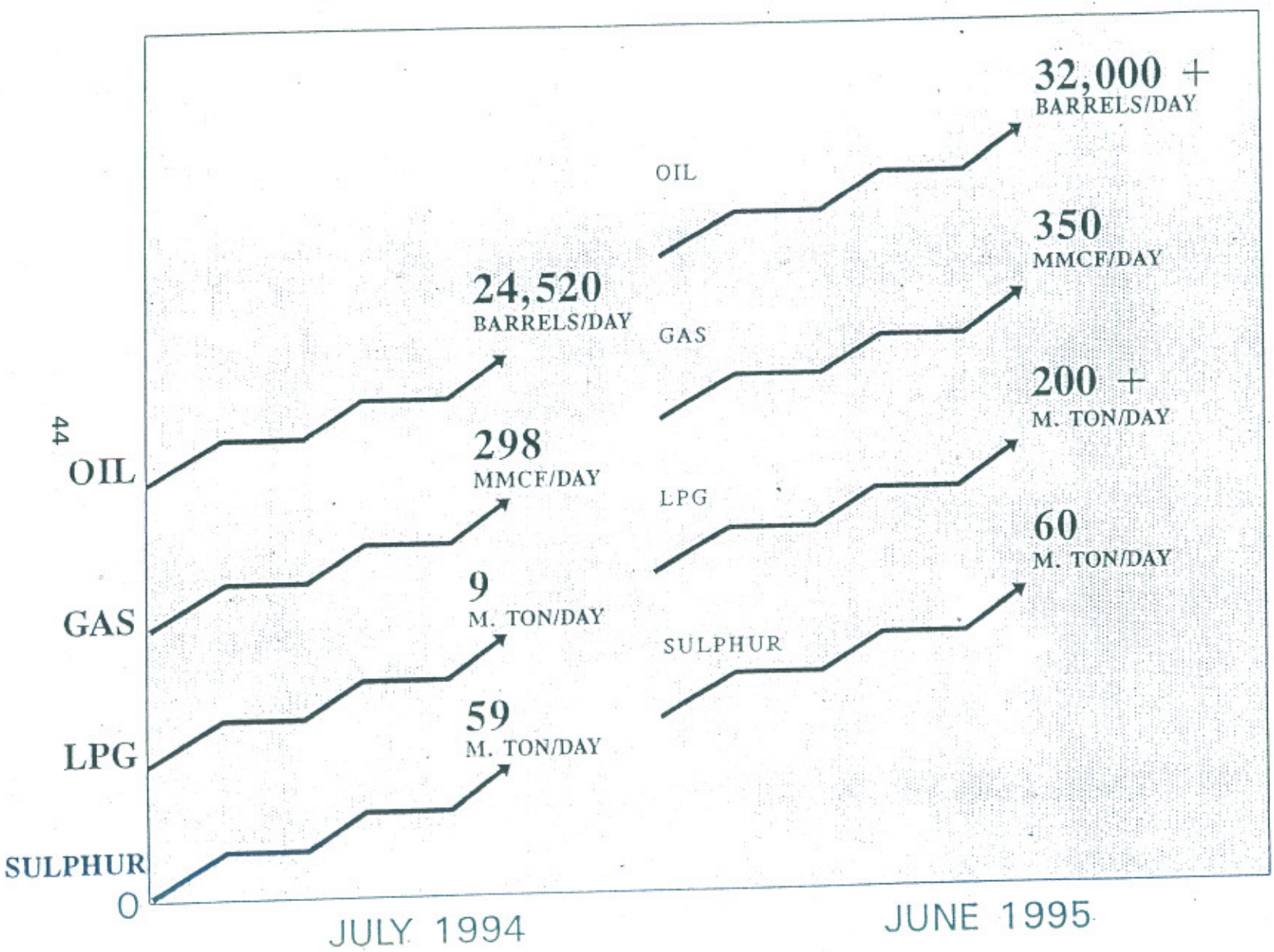
Buy Back by WAPDA / KESC
(based on current avoided costs)

	DEC-JULY	AUG-NOV
	(Ps. / kWh)	(Ps. / kWh)
Peak rates:	206	103
Off-peak rates:	82	73

Power will be delivered by the co-generators at the nearest WAPDA / KESC grid station, through a dedicated feeder. To ensure construction standards such interconnection feeders shall be constructed by WAPDA / KESC.

As an incentive, WAPDA / KESC will bear the cost of these feeders at the rate of one kilometer for each megawatt offered by the industrial self-generators subject to a maximum of five the kilometers.

O.G.D.C. OUTPUT


OIL
GAS
LPG
SULPHUR
0
24,520
BARRELS/DAY
298
MMCF/DAY
9
M. TON/DAY
59
M. TON/DAY
JULY 1994
OIL
GAS
LPG
SULPHUR
32,000 +
BARRELS/DAY
350
MMCF/DAY
200 +
M. TON/DAY
60
M. TON/DAY
JUNE 1995