

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM 695 003

PRESENT: [Shri M.K.G. Pillai, Chairman](#)
[Shri C. Balakrishnan, Member](#)

January 14, 2004

Petition No. DP-6	Dy.No. 00113 dt 24-06- 2003	Indian Aluminium Co. Ltd., Alupuram, Kalamassery 683 104. Kerala State Electricity Board, Thiruvananthapuram.	Petitioner Respondent
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ORDER

1. Background:

1.1 The petitioner, Indian Aluminium Co. Ltd., Alupuram, hereinafter called Indal is an extra high tension consumer availing power at the voltage of 110 kV from the Kerala State Electricity Board hereinafter called the KSEB or Board. The petitioner has stated that aluminium smelting, the activity in which it is engaged, is a power intensive industry and cost of power is the single most important driver in the cost of production. Cost of power at the existing tariff formed over 65% of the total cost of production while for the smelters abroad, the energy cost averages to only 20%. The selling price of aluminium is independent of the cost of individual producers, being governed by the London Metal Exchange (LME) price and market conditions. LME price has been reducing in real terms over the past several years.

The petitioner further stated that between 1997 and 1999, the KSEB hiked tariff five times, raising it from Rs 1.12 per kWh to Rs 2.4 per kWh. KSEB hiked EHT tariff with effect from August 1, 2001 by a further 25% and again hiked the tariff by another Ps. 50 per kWh with effect from 1st October, 2002. The tariff as applicable now is Rs. 3.35 per kWh. The petitioner has stated that being critically dependent on the power cost, where a hike of Ps. 10 per kWh would increase the metal cost by about Rs. 1700/- per tonne, the smelter has become completely unviable due to the frequent hike in tariff. From a profit making unit of Indal, the smelter has now turned into a loss making unit. The hike in power tariff has resulted in an annual loss of Rs. 24 crores.

Under the circumstances, the petitioner was compelled to look to other sources of supply of less costly power. The Power Trading Corporation has agreed to supply power to the petitioner at the rate of Rs. 2.50 per kWh at the point of interconnection between the Kerala Transmission System and Southern Region Transmission System. The power received at the interconnecting point is to be transmitted to the smelter located at Alupuram, Kalamassery using the transmission system of KSEB. The petitioner has therefore requested the Commission to allow it to avail power from PTC using the transmission system of the KSEB on open access basis in accordance with the provisions of the Electricity Act, 2003 and also decide on the wheeling charges, *etc.*, for the usage. The petitioner suggested a wheeling charge including losses, not exceeding Ps. 10/kWh.

1.2 The petition was notified to the KSEB on 3.7.2003 requesting for its response to the petition. The Government of Kerala were also requested to offer the views of the Government in the matter.

The KSEB in its reply dated 4.8.2003 stated that the present network of KSEB would become insufficient to transmit KSEB's entitlement from the Central Sector Power Stations located outside Kerala, which may reach a level of 900-1000 MW in the immediate future. The Board also pointed out certain constraints in the 400/220 kV transformer capacity for availing power by Indal through the Madakkathara 400/220 kV substation. The Board suggested fixing the transmission charges at Ps. 35/kWh based on the transmission charges for the transmission system associated with the Kayamkulam power station of NTPC. The Board also demanded transmission losses @ 8% of the transmitted energy, a surcharge of Ps. 42/kWh and an additional surcharge to offset the commitment charges.

1.3 The response of the Board was notified to Indal seeking their views on the demands of the KSEB. The petitioner in its rejoinder filed on 15th August 2003 refuted the contention of the KSEB regarding transmission constraints. The petitioner stated that the Board had a normal transmission capacity of 1100 MW for import of power from outside the State, if the capacities of all the inter-State 400 kV and 200 kV lines were utilized. The maximum import so far made by KSEB was 620 MW in April 2003 when the hydel generation was an all time low. The petitioner contented that the quantum of import of power by KSEB, under any circumstance would not exceed 750 MW in the near future. To reinforce the argument, the petitioner quoting from the budget of the KSEB, stated that the power purchase projection for 2003-04 was only 6156 MU including that from power stations of other agencies located within the State. Further, by Board's own admission, the 400 kV Madurai-Thiruvananthapuram line and associated substation would be commissioned by December, 2003. The petitioner therefore contented that the Board's transmission system had sufficient capacity for transmission of 30 MW of power, as sought by the petitioner. The petitioner further stated that the maximum import by KSEB through the 400/220 kV substation at Madakkathara had never exceeded 400 MW and therefore there would not be any difficulty of importing additional 30 MW for the use by the petitioner, as the transformers at Madakkathara substation had a capacity of 630 MW.

As regards transmission charges, the petitioner contented that the charges should be worked out on the basis of the depreciation of the original cost of the transmission system from Madakkathara to Kalamassery, interest on loan, if any, and O&M expenses and pro-rata charges for 30 MW apportioned against the maximum loading of 400 MW for the transmission lines. The petitioner has estimated that the transmission charges for transmission of power from Madakkathara to Indal Alupuram Smelter premises would be Ps 2.5/kWh only. The petitioner has pointed out that the wheeling charge levied by the Board on TNEB for transmitting power through Moozhiyar-Theni 220 kV feeder was only Ps 2.5/kWh. The petitioner has therefore contented that the transmission charges for transmitting power from Madakkathara to Indal should not exceed Ps 2.5/kWh.

As regards transmission losses, the petitioner has contented that the transmission loss of 8% claimed by the Board included losses in the 220 kV, 110 kV and 66 kV systems. The actual transmission loss in 220 kV system would be much lower than 2%. As per the calculation submitted by the petitioner, transmission loss for transmitting power from Madakkathara to Indal would work out only to 2.54%.

As regards surcharge to compensate the cross subsidy, the petitioner stated that the cross subsidy should be determined by comparing the Board's average cost of supply with the tariff rate for the consumer. Therefore the question of cross subsidy would arise only when the tariff of a particular consumer is more than the average cost of supply. Since in this particular case, the average cost of supply is Rs 3.99/kWh and the average tariff rate of the consumer (petitioner) is Rs 3.38, there was no cross subsidy applicable to the petitioner. The petitioner was therefore not liable to pay any surcharge to the Board.

1.4 In response to certain clarification sought by the Commission from the KSEB on 6th August, 2003, the KSEB furnished the reply on 25th August, 2003.

On the query regarding quantum and direction of power flow on the 220 kV system, the KSEB has informed that power flow is from Idukki/Bhramapuram to Kalamassery and from Lower Periyar/Idukki to Madakkathara under all operating conditions. The Board did not furnish details of calculation for arriving at the transmission loss of 8%.

Board further stated that fixed charges on account of withdrawal of 30 MW by Indal would cause an additional liability of approximately Rs 2 crores per month which need to be compensated by Indal.

1.5 Indal surrendered the power supply by KSEB to the smelter plant with effect from 1.8.2003.

2. Hearing of the Matter

2.1 In the proceedings of the Commission held on 2.9.2003, the parties to the petition were heard.

2.2 The representatives of the petitioner reiterated the arguments made in the petition and the subsequent rejoinder to the response of the KSEB. The petitioner contented that there was no transmission constraint in transmitting 30 MW power from the interconnecting point at Madakkathara to the Aluminium smelter plant at Alupuram. The representatives of the petitioner stated that till recently the smelter plant was receiving about 30 MW from the KSEB system. This quantum of power physically flowed from the BSES power station to the smelter plant and the same situation will continue even after delivery of 30 MW at Madakkathara by PTC. The only difference would be that generation in the KSEB system in the southern part could be correspondingly reduced. The total capability of import of power into KSEB system was around 1100 MW and the actual import requirement in the immediate future would not exceed 750 MW. The petitioner also contented that there was adequate margin in the 400/220 kV transformer capacity at Madakkathara to permit import of 30 MW of power required by the petitioner. The petitioner therefore pleaded for allowing open access to the transmission system of KSEB for importing 30 MW of power from PTC at Madakkathara and transmitting the power to the smelter plant at Alupuram.

On transmission charges, the petitioner stated that the demand of KSEB for a transmission charge of Ps 35/kWh was exorbitant. The petitioner argued that it was unscientific to base the transmission charges on the cost of transmission for Kayamkulam power station as the transmission system associated with the station was dedicated for transmitting the power from the station alone. The cost of transmission would vary depending on the quantum of energy generated at the station and the capital cost. If the generation was low, the per unit transmission charges would be high. The charges would be still higher in the case of Kayamkulam transmission system since it was constructed very recently with huge capital investment. The petitioner pointed out that for supply of Kayamkulam power to Tamil Nadu, KSEB was charging only Ps 2.5/kWh for usage of the 220 kV Moozhiar-Theni line of KSEB. The representatives of the petitioner also quoted an instance where the Central Electricity Regulatory Commission had fixed the tariff @ Ps 2.5/kWh for usage of 220 kV transmission system of Grid Corporation of Orissa by the Madhya Pradesh Electricity Board. The petitioner also stated that in the concept paper on open access in Inter-State Transmission brought out by the Central Electricity Regulatory Commission, the transmission charge has been worked out as Ps 1.98/kWh for 100 KM usage of transmission system. The petitioner stated that taking into account the transmission systems between Madakkathara and Alupuram, the transmission charges would not exceed Ps 2.5/kWh. The petitioner therefore pleaded that the transmission charge should not be fixed higher than Ps 2.5/kWh.

As regards transmission losses, the petitioner stated that the power flow would be by displacement. While the petitioner would be physically drawing power from the BSES power station, the 30 MW power received at Madakkathara would be flowing to North Kerala. The representatives of the petitioner argued that the KSEB would be in a position to reduce power generation to the extent of 30 MW in the power stations in the

southern part of the State with consequent reduction in the power flow from southern part to Madakkathara. On account of this, there would be reduction in losses. However, even if the losses were calculated on the basis of contracted path method from Madakkathara to Alupuram, the actual loss would work out only to 2.54%. The petitioner therefore pleaded that the transmission losses should not be fixed higher than 2.54%.

As regards the demand for surcharge towards cross subsidy, the petitioner stated that the question would arise only when the tariff of a particular category of consumer was more than the average cost of supply. Since the KSEB's average cost of supply and the petitioner's tariff were stated to be Rs 3.99/kWh and Rs 3.38/kWh respectively, the petitioner was not liable to pay any surcharge towards cross subsidy. The petitioner further stated that presently KSEB was meeting its demand partly through power purchase. The cost of power purchase in certain cases was as high as Rs 4.50 /kWh. Hence if 30 MW power was wheeled to the petitioner from outside the State, the KSEB could reduce the power purchase to the same extent from costly sources. Thus, the KSEB would stand to gain to the extent of Rs 1.12 per kWh (Rs 4.50 - Rs 3.38) during the operation of wheeling of power to the petitioner. The petitioner, therefore, stated that even if it was admitted for the sake of argument that there was a loss of Ps 42/kWh on account of cross subsidy factor, the loss would be well compensated by the gain of Rs 1.12 per kWh through reduction of purchase of costliest power. The petitioner therefore pleaded for exemption from payment of surcharge towards cross subsidy. The petitioner also argued against the additional surcharge as the entire demand of the petitioner would be met by PTC continuously and no additional facility was needed to be created for the proposed wheeling of 30 MW of power.

2.3 The representatives of the workers' Union of Indal stated that the production in the plant was getting affected due to the frequent revision in the power tariff by the KSEB and Indal was scaling down production through gradual layoffs. The operation of the smelter plant has been totally stopped with effect from 1.8.2003. Indal is presently maintaining only marginal operations with power intake of 5 MW. The workers apprehended that even this small scale operation may come to a stop in course of time. As a result of this, about 1000 workers would become jobless which might adversely affect about 5000 affiliated families. This may affect the industrial climate of the State besides loss of direct and indirect revenue to the Government to the extent of Rs 80 crores per annum. Closure of Indal may also come in the way of flow of investment for new industrial ventures in the State. The representatives of the Workers' unions pleaded for every possible action on the part of the Commission, Government of Kerala and the KSEB in restarting the smelter plant, as early as possible.

2.4 The representative of the Government of Kerala stated that the State Government had no objection in permitting open access to the transmission system of KSEB for delivering power to Indal by PTC subject to technical suitability of the proposal. The Government representative stated that the Commission might decide the wheeling and other charges applicable to the case.

2.5 The representatives of the KSE Board stated that considering the power entitlement of KSEB in the Central Sector Stations and also the contracted power from other sources outside the State, the total power import in the immediate future would be of the order of 1170 MW. The existing transmission capacity would not be adequate to facilitate import of this quantum of power. The 400/220 kV transformer capacity at Madakkathara also imposed a constraint on import of additional power. However, since the requirement of Indal was only of the order of 30 MW, the Board would not raise any objection for permitting this import by Indal.

As regards charges for transmitting power to Indal using the transmission system of KSEB, the representatives of KSEB stated that as the actual power flow would take place through displacement in an interconnecting network, the transmission charges were necessarily to be worked out on the basis of the pooled cost of transmission in the State. However, as the valuation of assets and other costs relating to the transmission profit centre of the Board had not been worked out separately, it was not possible to arrive at the appropriate value for the transmission/wheeling charges, on this basis. Pending calculation of the transmission tariff on pooled cost basis, the Board would opt for deciding the transmission tariff on the basis of transmission charges paid by the Board to POWERGRID for Kayamkulam transmission system, as this transmission system formed an integral part of the overall transmission system in the State. Presently the charges for Kayamkulam transmission system worked out to Ps 35/kWh. The Board therefore pleaded that the transmission charges for usage of KSEB's transmission system by Indal should be fixed at Ps 35/kWh.

As regards losses in the transmission system, the Board's representatives stated that presently the average transmission losses at EHT level worked out to 7.1% and allowing for incremental losses for transmission of additional power of 30 MW, the losses would work out to 8% and therefore the power transfer to Indal should provide for transmission loss of 8%. On a query from the Commission, the Board's representatives stated that this included also the losses in the 66 kV system.

The Board's representatives further stated that the Board was entitled for a surcharge based on the difference between tariff for Indal and average realization by the Board. The average charges for Indal worked out to Rs 3.36/kWh including electricity duty of Ps 1/kWh and surcharge of Ps 2.5/kWh. As the average realization was Rs 2.96/kWh, it was argued that the Board was entitled for a surcharge of Ps 40/kWh. It was also argued that the Indal should also pay an additional surcharge of Rs 2 crores per month towards the liability of the Board by way of fixed charges to be paid to independent power producers. The representatives of the Board further stated that in the event of failure of power supply from PTC, if Indal desired to avail supply from KSEB, it should be liable to pay Rs 2 crores per month as grid support charges in addition to the normal supply tariff of the KSEB.

2.6 The representatives of Indal disputed the arguments of KSEB in regard to transmission charges, losses and surcharge. They reiterated that the Kayamkulam transmission system was dedicated to the Kayamkulam power station and was constructed with 400 kV parameters and the transmission system therefore had a much higher capacity than the 220 kV system. Working out the transmission charge on the basis of Kayamkulam transmission was unscientific as the transmission charge was dependent on the power generated at Kayamkulam. Therefore the petitioner argued that a transmission charge of Ps 35/kWh based on the Kayamkulam transmission charges was unjustified.

As regards transmission losses, the representatives of the petitioner reemphasised that power imported at Madakkathara would generally flow to the northern parts of the State and the requirements of power in the central areas would be met from the local generation and actually there would not be any physical transmission of imported power from Madakkara to Indal over the dedicated path, as a result of which there would be a reduction in losses to the extent of 0.2 MW in the KSEB's 220 kV system. Thus there would be an indirect gain for the KSEB due to the import of 30 MW for Indal. The petitioner argued that this point also should be taken into account while fixing the wheeling losses for the petitioner.

The representatives of the petitioner further stated that the load of Indal was such that the energy drawals remained more or less constant with a load factor of around 96%. However in the event of minor variations in actual practice, overdrawals/underdrawals might take place to some extent. Therefore, the petitioner suggested that actual energy schedule for drawal should be made on monthly basis.

2.7 Subsequent to the hearing on 2.9.2003, the KSEB vide letter No.TRAC/SERC/INDAL/440 dated 16.10.2003 raised its claim towards total wheeling charges for transmission of power to Indal to Ps.147 per unit of energy as per the following brake-up:

	Ps.
1 Wheeling Charges	32/40
2 Additional surcharge for compensating fixed cost of transmission and distribution	03
3 Surcharge to compensate revenue loss	96/88
4 Load despatch, scheduling and system operation charges	10
5 ROE	<u>06</u>
	147

The claim was based on the assumption that power flow to Indal would be taking place over the Edemon-Sabarigiri-Pallom-Brahmapuram-Kalamassery-Indal feeders. The Commission vide letter No.12/4/KERC/2003/310 dated 21st October 2003 asked for details of load flow studies to substantiate the premise that power to Indal would be fed

through the Edemon-Sabarigiri-Pallom-Brahmapuram-Kalamassery-Indal feeders and also the details of arriving at the cost per km of 220 kV and 110kV lines considered by the KSEB in working out the transmission charges. KSEB was also asked to furnish the details of other assumptions made in the letter including the cost of supply to Indal when the KSEB was supplying power. The KSEB has not yet furnished these details.

3. Commission's Findings:

3.1 Indal has closed down the smelter plant with effect from 1.8.2003 and reduced its power intake from 30 MW to 5 MW. This development is a matter of serious concern to the Commission as the KSE Board has lost a major industrial consumer and it will further aggravate the already strained finances of the KSEB. The reduction in revenue collection by the KSEB on account of the closure of smelter plant is estimated to be around Rs. 5.5 crores per month on an average. The average realization from Indal was Rs. 3.38 per kWh excluding electricity duty of Ps. 1/kWh and surcharge of Ps. 2.5 per kWh. The present level average realization by KSEB per kWh of energy sold is Rs. 2.96. Therefore the loss to KSEB due to the closure of Indal or grant of permission to Indal for availing power from PTC as requested in the petition of Indal would be Ps 42 per kWh of the energy consumption of the smelter plant. The KSEB has not indicated any strategy to deal with the situation arising out of the closure of Indal, even though the Commission had made a specific reference to the Board in this regard.

3.2 During the hearing, the representative of the Government of Kerala conveyed no objection to the proposal for open access subject to technical suitability and determination of transmission charges, etc., by the Commission. The KSE Board, in written response earlier had expressed reservations regarding permission of open access to Indal, citing transmission constraint as the reason. However, during the hearing, the representatives of the KSEB expressed the view that since the additional import was only to the extent of 30 MW, the Board would not object to granting permission to Indal for importing this quantum of power from PTC.

3.3 Under Subsection (2) (d) (ii) of section 39 and Subsection (2) of Section 42 of the Electricity Act, 2003, the Commission is vested with the authority to introduce open access for using the transmission system by a licensee or consumer and the Act allows sufficient time to the Commission for introduction of open access after framing regulations thereof. In the present case, Indal has surrendered the power and the smelter unit has become inoperative. It would appear that the smelter unit may get ultimately closed, if open access is not allowed. The Commission views this as an unprecedented and extraordinary situation warranting immediate decision, in the matter, by the Commission. During the hearing, the Government of Kerala and the KSEB have given in principle clearance for import of power by Indal from PTC using the transmission system of KSEB. Under the circumstances, the commission is inclined to allow open access to the transmission system of KSEB for use by Indal for transmitting the power purchased from PTC on an experimental basis. The Commission is therefore required to determine the charges to be paid by Indal to KSEB for such usage of the transmission system.

3.4 The components of the charges for permitting import of power by Indal from PTC would essentially cover the charges for usage of the transmission system of KSEB and compensation for transmission losses. As per sub-section 2(d) of Section 39 of the Act, any consumer provided with open access to the transmission system by a licensee is required to pay the transmission charges and a surcharge thereon, as may be specified by the State Commission and the surcharge shall be utilized for meeting the current level of cross subsidy. The Commission has to keep the above provision in the Act also in mind, while deciding the charges for permitting import of power by Indal.

3.5 As regards charges for usage of the transmission system, the petitioner has argued in favour of a transmission charge of Ps 2.5/kWh. In support of this, the petitioner has cited certain instances where similar charges were levied. The matter was examined in detail by the Commission. The Commission has found that the details of arriving at a transmission charge of Rs. 2.5/kWh, viz; the various components of the cost of transmission system, energy handled, distance of transmission, etc., have not been furnished. Further, it appears that the calculation is based on historical cost of the transmission system. The Commission is not in favour of deciding transmission charges on the basis of historical cost alone, as this approach will hamper development of the transmission system. In Commission's view, a combination of historical cost and opportunity cost need to be followed in deciding the transmission charges. As regards the transmission charge of Ps 1.98/kWh for 100 KM usage of 400 kV transmission system worked out by Central Electricity Regulatory Commission, it has been found that this is arrived at on the basis of a uniform loading of 500 MW on all the 400 kV lines. As actual loading on most of the lines would be much lower than this figure, the transmission charge may undergo an upward revision. Further, the proposal of CERC is in the form of a concept paper in draft stage, which may undergo many changes before finalization. The CERC has issued an interim order based on the existing tariff norms which is on pooled cost basis.

In view of the above, the Commission is not in a position to accept the proposal of the petitioner for fixing a transmission tariff of Ps 2.5/ kWh.

The Board, on the other hand, has stated that the transmission charge should be fixed on the basis of the charges for Kayamkulam transmission of POWERGRID which averages out to Ps 35/kWh. On scrutiny, the Commission has found that this figure has been arrived at by dividing the monthly transmission service charges by 100 million units. However, the average monthly generation at Kayamkulam power station is about 200 million units. This clearly shows that while working out the transmission charges, the Board has not taken into account the supply of 50% of the energy generation at Kayamkulam Station to Tamil Nadu. If this supply is also taken into account, the transmission charges on the basis of generation at Kayamkulam could work out Ps 17.5/kWh. The Commission notes that out of the two 220 kV double circuit transmission lines from Kayamkulam station, one line has been constructed with 400 kV parameters. On this basis, the total transmission capacity of the Kayamkulam transmission system would work out to about 800 MW. Thus, the monthly energy handling capacity of the transmission system, on a moderate scale, would be 400 million units per month. The

transmission charges on this basis would work out to Ps 8.75/kWh. The Commission is also not in a position to consider the subsequent claim of KSEB for a total wheeling charge of Ps.147, since the supporting information called for by the Commission has not yet been furnished by the Board.

The Commission is therefore not agreeable to fix the transmission charges on the basis of the calculations furnished by the KSEB for working out charges for usage of the transmission system.

The Commission recognizes that there are different methods for working out the transmission charges, viz., pooled cost (postage stamp) method, contracted path method, MW-KM method, etc. In the particular case of import of 30 MW of power by Indal, as per the existing system configuration and operating conditions, most of the power would be received at Madakkathara 400 kV sub station. However, a part of the power, though small in quantum, may find its path over the other interconnecting lines. The situation may further change after the commissioning of the 400 kV Madurai-Thiruvananthapuram line, when a small portion of the power may find its path over this line also. This would mean that it would be difficult to distinctly identify the transmission path for transfer of 30 MW of power by Indal through the KSEB system. The Commission is therefore of the view that the most preferable method of determining the transmission charge is on the basis of the pooled cost of 220 kV transmission system in Kerala including the Kayamkulam transmission system. To this, the charges for usage of 110 kV transmission system from Kalamassery to Indal could be added. However, the KSEB was not in a position to furnish the cost details needed for arriving at the transmission charges on this basis.

Under the circumstances, the only option before the Commission is to arrive at the charges on the basis of the cost of a fairly new dedicated transmission system from Madakkathara to Alupuram, if constructed for transmission of 30 MW of power. The Commission collected cost data in this connection from various sources including the Central Electricity Authority. It has been found that the annual cost of such a transmission system apportioned for transfer of 30 MW power to Alupuram (over a distance of 70 KM) would work out to Rs. 2.2 crores. Based on an annual energy transfer of 240 million units, the cost per unit would work out to Ps 9/kWh. This may have to be increased by another Ps 1 /kWh as compensation for accommodating minor variations in power absorption on an instant to instant basis, SLDC charges, RLDC charges (if any) energy accounting charges, etc. Even though this rate of Ps 10/kWh may be higher than the normal charges for energy transfer over a 220 kV system of appropriate distance, the Commission feels that it would be necessary to adopt this figure in order to promote transmission system development in future. The Commission is therefore of the opinion that a charge of Ps 10/kWh should be fixed on composite basis to take care of transmission and related charges.

3.6 As regards system losses, the petitioner has worked out energy losses @ 2.54% on

the basis of an absolute power flow of 30 MW over contracted path. The Board has estimated the energy losses @ 8% on pooled basis in the EHT system at 66 kV and above.

Based on the information furnished by the KSEB, the Commission has found that presently the power is flowing from Lower Periyar/Idukki to Madakkathara and from Madakkathara to northern Kerala under all operating conditions. This situation is likely to continue even after commissioning of the 400 kV Madurai-Thiruvananthapuram line. Import of 30 MW of power for Indal would therefore reduce the flow over the 220 kV Lower Periyar-Madakkathara and Idukki-Madakkathara lines. Thus there would be a reduction in the losses of the KSEB system due to the import of 30 MW power by Indal. However, the system conditions would not remain constant and might vary in accordance with the changes in system configuration and generation capacity additions. The Commission is therefore of the view that it would be necessary to keep an allowance to take care of the changing system conditions. As the loss worked out on contracted path basis is the lowest, it would be appropriate to adopt such a loss figure for this purpose. The Commission is however inclined to round off this figure to 3% since the calculation to arrive at a loss figure of 2.54% was made on the basis of absolute power flow and not on the basis of incremental power flow. The Commission is therefore of the view that the Board should be compensated for transmission losses to the extent of 3% of the energy transmitted.

3.7 As regards the surcharge on transmission charges, the petitioner has argued that since the average cost of supply by the Board is Rs. 3.99/kWh which is higher than the average tariff for Indal, the petitioner was not cross subsidizing any other type of consumer, and therefore no surcharge should be levied. The Board, on the other hand, maintained that average energy charges for Indal worked out to Rs 3.36 kWh while the average realization by KSEB was Rs 2.96/kWh and there was cross subsidization to the extent of Ps 40/kWh. Therefore the surcharge should be levied @ Ps 40/kWh. The Board has subsequently revised this figure to Ps.88/96.

The Commission is not in a position to accept both the above arguments. By definition, cross subsidy is the difference between the tariff for the consumer and the actual cost of supply to the consumer, if the former is higher than the latter. Although the Commission has sought the information regarding the cost of supply to EHT consumers at 110 kV, the KSEB was not in a position to furnish the same due to lack of data and asked for one year time to work out the details. Under the circumstances, the Commission is not in a position to decide the rate of surcharge based on the current level cross subsidy.

The Commission recognizes the fact that in deciding the various charges related to the import of 30 MW power by Indal, it has to strike a balance between two conflicting interests. Any adverse effect on the finances of the KSEB due to the transaction is detrimental to power development in the State. The continued closure of the smelter plant and the subsequent total closure of Indal would adversely affect the climate for industrial development with consequent setback to power development in the State. This

is especially so, since the industrial consumption in the State is gradually coming down. The Commission firmly believes that it is impossible to sustain power development without industrial development.

In determining the rate for surcharge, the Commission has to ensure that there is no immediate financial loss to KSEB. In order to avoid financial loss to KSEB, it has to be compensated for the difference between the average tariff for Indal i.e. Rs. 3.38/kWh and the overall average realization of Rs 2.96/kWh for the energy supplied by KSEB. After taking into account the transmission charges and compensation for transmission losses as worked out above, it is felt that a levy of Ps 25/kWh towards surcharge would satisfy the above requirement.

3.8 The Commission considered the request of the KSEB for an additional surcharge of Rs 2 crores/month. As per the provisions of the Electricity Act, 2003, this surcharge is meant to meet the fixed cost of the licensee arising out of its obligation to supply. Since Indal has been an industrial consumer even before the constitution of the KSEB, the Commission finds no justification in calling upon the Company to pay any surcharge arising out of the Board's obligation to supply. Payment against commitment charges to Independent Power Producers has also no relevance under the power shortage conditions. The Commission is therefore not in a position to accept the request of the KSEB for the levy of additional surcharge on Indal.

4. Commission's decision:

4.1 *In view of the foregoing discussion, the Commission in accordance with the provisions of Subsection 2(d)(ii) of Section 39 and Subsection(2) of Section 42 of the Electricity Act, 2003 seeks to allow open access to Indal for import of 30MW of power using the transmission system of KSEB on an experimental basis.*

4.2 Transmission charges:

Indal shall pay a composite transmission charge @ Ps 10/kWh to the KSEB for the energy delivered at Indal, Alupuram, which includes charges for accommodating minor instant to instant variations in power drawal, SLDC charges, RLDC charges (if any), accounting charges, etc.

4.3 Transmission Losses:

Indal shall compensate the KSEB for transmission losses at 3% of the energy injected into the KSEB system for transmission to Indal, Alupuram. This would mean that for every 100 units of energy injected into the KSEB system, KSEB would be liable to deliver 97units at Indal, Alupuram.

4.4 Surcharge on transmission charges:

Indal shall pay to KSEB a surcharge on the transmission charges @ Ps 25/kWh

of energy delivered at Indal, Alupuram which will be reduced and eliminated in a phased manner as below:

From 1 st April 2005	-	Ps 20/kWh
From 1 st April 2006	-	Ps 15/kWh
From 1 st April 2007	-	Ps 10/kWh
From 1 st April 2008	-	Ps 5/kWh
From 1 st April 2009	-	Nil

4.5 KSEB shall accommodate minor variations in power absorption which may take place at any instant on the schedules prepared by the State Load Despatch Station and prepare the energy accounts on a monthly basis, which will be settled directly between Indal & PTC.

4.6 Indal and KSEB may mutually arrive at a suitable agreement regarding the terms and conditions for meeting the contingent conditions arising out of failure of power supply to Indal from PTC. Either of the parties may approach the Commission through suitable petitions for resolving any unsettled issue in this connection.

4.7 The above decisions of the Commission will not prohibit the parties to the petition including the successor bodies to the KSEB at a later date in filing review petitions with full supporting details thereof. The Commission's decision on such review petitions will only be operative prospectively.

Petition No. DP-6 from Indian Aluminium Co. Ltd., Alupuram is disposed of accordingly.

Sd/-

C. BALAKRISHNAN
MEMBER

Sd/-

M.K.G. PILLAI
CHAIRMAN

Authenticated copy for issue

SECRETARY -IN-CHARGE

