

## RAJYA SABHA

Tuesday, the 14th June, 1994/24th  
Jyaishta, 1916 (Saka)

The House met at eleven of the clock,  
Mr. Chairman in the Chair.

### OBITUARY REFERENCE

MR. CHAIRMAN: Hon. Members, I refer with profound sorrow to the passing away of Shri R. K. Jaichandra Singh, a former Member of Rajya Sabha from the State of Manipur on the 13th June, 1994 after a prolonged illness.

Born at Imphal in February, 1942. Shri R. K. Jaichandra Singh had his education at Lucknow and Delhi Universities and the Government Law College, Bombay. He started his career as a lawyer and was practising law in Manipur.

As a social worker, Shri Jaichandra Singh was associated with several social welfare organisations in different capacities.

Shri Jaichandra Singh was a Member of Rajya Sabha from April, 1984 to July, 1988. He was a Member of the Union Council of Ministers and held the portfolios of Youth Affairs and Sports, and Chemicals and petrochemicals. He was the Chief Minister of Manipur during 1988-90.

In the passing away of Shri R. K. Jaichandra Singh, the nation has lost a parliamentarian, administrator and social worker of distinction.

We deeply mourn the passing away of Shri R. K. Jaichandra Singh.

I request the Members to rise in their places and observe silence as a mark of respect to the memory of the departed.

[Hon. Members then stood in silence for one minute]

MR. CHAIRMAN: Secretary-General will convey to the members of the bereaved family our sense of profound sorrow and deep sympathy.

### ORAL ANSWERS TO QUESTION

Effect of better quality coal in power generation

\*701. SHRI PARMESHWAR KUMAR AGARWALLA- Will the Minister of POWER be pleased to state:

(a) whether the capital cost of setting up of power plants will be less if better quality of coal, containing high UHV K. Cal per kg. Coal ranging between 5600 to 6200, is made available and utilised.

(b) whether apart from the lower capital cost, the better quality of coal, stated above, will also increase the plant load factor;

(c) whether in such a situation, the requirement of installation of total M.W. in the Eighth Five Year Plan will go down and thereby country will save extra investment in Power Sector;

(d) if so, by how much; and

(e) if not, what are the reasons therefor?

THE MINISTER OF STATE IN THE MINISTRY OF POWER (SHRI P. V. RANGYYA NAIDU): (a) to (e) A Statement is laid on the Table of the House.

#### Statement

(a) Cost of the boilers used for high calorific value coal is about 5 to 10 per cent less. The variation in the overall cost of the power plant would hardly be 2 per cent.

(b) Use of better quality coal by itself would not ensure a high Plant Load Factor (PLF). Boilers and auxiliaries of power plants, designed for

specific grades of coal, if worked efficiently, can achieve same optimum efficiency.

(c) to (e) In view of the answers to (a) and (b) above, there would be only marginal difference in the plant availability with utilisation of higher calorific value coal and, therefore, whereas requirement of installed capacity would hardly go down, reduction in cost would be negligible. At any rate, the planning for capacity addition in the power sector has to take into account the need to optimally utilise our large available reserves of coal with lower calorific value.

**SHRI PARMESHWAR KUMAR AGARWALLA:** Mr. Chairman, Sir, in this House itself on a previous occasion I raised an Unstarred Question No. 516 dated 3.5.1994 about the use of good quality coal. The reply given was that the use of higher UHV coal as compared to lower UHV coal would result in lower capital cost of power plant, higher efficiency and lower dust emission from the stalk of the boiler. The fact of the variation in the UHV, however, is similar both for big plants and 200 MW plants.

The reply given to part (a) of my question is as follows:

"Cost of the boilers used for high calorific value coal is only about 5 to 10 per cent less. The variation in the overall cost of the power plant would hardly be 2 per cent."

A study was conducted and the following parameters were established if better variety of coal is used: improvement in plant utilisation factor from 37 per cent to 96 per cent; improvement in generation from 7.71 MU a day to 8.43 MU a day. There are many other parameters which have been achieved by the use of better variety of coal. The future of this country is going to depend on cheaper electricity that we produce. I don't know whether the Government is only intending to invite foreign investors or trying to improve our own plant load factor which can

save the nation of Rs. 2 700 crores.

I would like to know whether or-not the Minister's attention has been drawn to a study which has been conducted at Satpura power station

**SHRI P. V. RANGAYYA NAIDU:** Mr. Chairman, Sir, I do not know to which study the hon. Member is referring. But I would like to submit that the country's coal reserves are presently estimated at 197 billion tonnes of which more than 70 per cent is low-grade coal. The commercial transaction coal has been graded, based on useful heat value, from the highest grade of 'A' to the lowest grade of 'F'. The coal earmarked for power generation to the power stations is generally of 'D' to 'F' grade coal. Accordingly, the power plants in the country are designed to burn this low grade coal. However, in actual practice, power stations do not always get coal as per designed parameters and the power stations have been getting more of 'F' and 'G' grade coal. So, sir, I would like to submit that we have been able to utilise the available low-grade coal in this country by suitably designing the boilers and other equipment and achieving very high plant load factor. Some of our power stations like Ramagundam and Vijayawada go up to 90 to 91 per cent plant load factor. So, Sir, the plant load factor does not necessarily depend on the grade of the coal, and there are other problems also connected with high grade coal.

**SHRI RAMESHWAR KUMAR AGARWALLA:** Sir, if this is the fact, then, why are the foreign countries, all over the world, using 6,200 K cal. coal in their plants? And why is our Government allowing import of non-coking coal by reducing the duty? If this is the fact, has the Government got a commitment that foreign investors will have to use our coal only, and not import coal? That is the parameter which you are telling this hon. House. Sir, he has mentioned 1,97,000 million tonnes of coal. I know that. Actually, it is related to

Coal Ministry. But here I want to State on the floor of that House that we have better variety of coal, we can use better variety of coal. Instead of putting a burden of Rs. 80,000 crores on this nation by way of investment of Rs. 4 crores per MW, it is better to explore the other possibility of producing cheaper quality which is possible within the framework of this country, from the resources of this country. We do not require that much of investment. So, my specific question is: Has this possibility been explored by your Ministry or not? We are always going in for easier options like import of sugar, like import of washing machines, like import of everything.

**SHRI P. V. RANGAYYA NAIDU:** I am sorry, Sir, the hon. Member by implication is suggesting that we should import coal. On the one hand he is accusing the Government of importing many things and he is suggesting... (Interruptions) Please listen to me.

**SHRI PARMESHWAR KUMAR AGARWALLA:** I am going to listen to you. But you are making a wrong allegation.

**MR. CHAIRMAN:** Please listen to the hon. Minister.

**SHRI P. V. RANGAYA NAIDU:** I have already submitted, Sir, that 70 per cent of the coal available in this country is low grade coal. Where from can I get high grade coal? grade coal is generally used in industries like cement, steel and fertilizers. So, coking coal is not imported by the Power Ministry or by the power generating plants at all. We are using the available coal with the grade that is available in the country. Sir, as he has said, in foreign countries, they may be using coal which is higher grade that is available in their countries. Sir, in higher grade coal, there are certain problems as I have already mentioned. In the low-grade coal, the sulphur content is less. Burning of this coal in a power plant generally obviates the need for installation of flue gas desulphurisa-

tion (FGD) plant to maintain emission levels and ambient air quality within permissible limits. Higher grades of coal, on the other hand, could contain higher sulphur content and might, therefore, necessitate the installation of FGD plant which is an expensive proposition. Further, the burning of higher grade coal also gives rise to increased nitrous emissions, which is another environment degrading element and would need further capital investment to maintain ambient air quality. The cost of a power generation project depends on many factors such as unit size, location of the power plant, infrastructural facilities, manufacture technology adopted, redundancy, etc., not necessarily on the quality of the coal.

**SHRI RAMESHWAR AGARWALLA:** The House is being misled. Here is his reply. I am reading the same Unstarred Question. "Better grade coal with higher UHV will result in lower pollution due to reduction in ash and particulate emission through stack"... (Interruptions)... Mr. Jogi, you are interrupting all the time in the House. This is a serious question. This does not relate to your party. This relates to the nation.

**MR. CHAIRMAN:** Please talk to me.

**SHRI PARMESHWAR AGARWALLA:** It is his admission that by the use of better variety of coal, pollution will be less. My contention is, I never advocated the import of coal.

**MR. CHAIRMAN:** The Minister has corrected it now.

**SHRI PARMESHWAR AGARWALLA:** He has not corrected, Sir. He has given wrong information. He can improve the available coal by washing it, and in that investment will be much lower than putting additional plant capacity. That is my point.

**MR. CHAIRMAN:** Any comments

**SHRI P. V. RANGAYYA NAIDU:** Sir, studies have been made for coal

beneficiation. It is found that unless the power plant is situated around a thousand kilometres away from the coal fields, the expenditure on coal washery or coal beneficiation is not cost effective. That is why most of our power stations are located at pitheads. But at a few places we have this facility. For example, in the Piparwa mine, a coal beneficiation project is already taken up for feeding coal to Yamuna Nagar and Dadri TPS. Also at the Kalinga open cast mine cum-beneficiation project was approved for the supply of washed coal to Tuticorin, North Madras and Kayamkulam. In both the cases, the NTPC and TNEB have given prior commitment for bearing the extra cost in washing, as it involves extra cost in washing. So unless the transportation cost is so high which can justify the cost involved in the washing of the coal, it is not worth it. In fact even the committee which went into it had recommended that unless the power station is located at a distance a thousand kilometres or more, coal washeries/beneficiation plants are not cost-effective. That is why we have not done it. But still, wherever necessary we are resorting to this.

**SHRI PARAMESHWAR AGARWALA:** Sir, one second.

**MR. CHAIRMAN:** No. Will you have sit down? You have had three question. Please.

**श्री मूल चन्द मीणा :** सभापति महोदय, मैं मंत्री जी जानना चाहता हूँ कि कोयले पर आधारित ताप विद्युत परियोजना देश भर में कितनी हैं जो आपके यहाँ प्रस्तावित हैं ? राजस्थान के अन्दर धौलपुर में बिजली की कमी के कारण ताप विद्युत परियोजना करीब 5 साल से प्रस्तावित पड़ी है। क्या कारण है मंत्री जी उस परियोजना को स्वीकृति नहीं दी गई है ? आप कब तक उसे स्वीकृति देकर कार्य प्रारम्भ करायेंगे ?

**SHRI P. V. RANGAYYA NAIDU:** Sir, I submit that this question does not arise out of the main question. If the hon. Member gives notice, I will answer that,

**MR. CHAIRMAN:** It is about Rajasthan. You ask another question.

**श्री मूल चन्द मीणा :** कोयले पर आधारित क्वेश्चन है। मैं यह जानना चाहता हूँ कि कितनी परियोजनायें आपके यहाँ प्रस्तावित हैं ?

**CHAIRMAN:** I don't think you can answer it without notice.

**SHRI DIPANKAR MUKHERJEE:** I am inclined to agree with the last sentence of the answer where he says that planning has to be based on utilizing our resources of coal with lower calorific value. My specific question is, so far as the design in coal quality is concerned, are you taking any specific steps to see that the power plants are receiving the designed input of coal at these spots, because I do not agree with the statement that there would be only marginal difference in the plant availability in the utilization of higher calorific value, which means that if a plant is designed for a particular quality of coal and if it does not get that quality of coal, the plant load factor will not be reduced. A study has been done in one plant where we have seen that there was about three to four per cent reduction in the plant availability and plant load factor. What steps are being taken and what studies are being made to see that every power plant gets the quality of coal for which the plant has been designed? Is any study being made on this?

**SHRI P. V. RANGAYYA NAIDU:** Sir, we are getting roughly about the same grade for which the power plants have been designed. I have information on about 19 power plants where design grade coal was not actually being supplied in 1933-94. We are constantly in touch with the Coal India to see that actually the design grade of coal is supplied to the plants whatever the boilers are designed for. So, there is no problem that way.

**SHRI DIPANKAR MUKHERJEE:**  
Do you have any all-India figure? There is deterioration because they are getting poor quality coal. They are having lower power generation. Do you have the all-India figure?

**श्री अजीत जोगी :** सभापति महोदय, हालांकि यह सच है कि यदि बेहतर किस्म का कोयला उपलब्ध कराया जाये, तो जो हमारे पावर प्लांट हैं, उनकी कैपिटल कास्ट भी कम होगी और रिकॉरिंग प्लांट लोड सेक्टर भी अच्छा हो सकता है। पर यह भी सच है कि भारत में जो कोयला आज उपलब्ध है, वह अच्छे किस्म का नहीं है। इसलिये मैं आपके माध्यम से मंत्री जी से यह जानना चाहता हूँ कि जो कोयला हमें देश में उपलब्ध है, उसको ही और अच्छा बनाने के लिये वह इन तीन दिशाओं में क्या-क्या काम कर रहे हैं? पहली बात यह है कि जो कोयले के पावर प्लांट पिट हैड पर हैं, वहां पर अच्छी वाशरीज एस्टेबलिश की जाये, जिससे कोयले को ऐश कान्टेन्ट कम हों और कोयले की क्वालिटी बेहतर हो। इस दिशा में आप क्या काम कर रहे हैं?

दूसरा यह है कि देश में ही अच्छे किस्म के कोयले की पहले खोज की जाये, इस दिशा में क्या काम किया जा रहा है और तीसरी बात यह है कि क्या हमारे देश में रिसर्च एण्ड डेवलपमेंट में ऐसा काम हो रहा है, जिससे जो पावर प्लांट लगे हुए हैं, उनमें अच्छा कोयला हमें उपलब्ध हो, उसको और बेहतर बनाकर उनकी परफॉर्मंस को बेहतर किया जा सके और प्लांट लीड सेक्टर को सुधारा जा सके, कैपिटल कास्ट और रिकॉरिंग कास्ट को कम किया जा सके। इन तीनों दिशाओं में मंत्रालय द्वारा क्या किया जा रहा है, मंत्री जी कृपया यह बतायें?

**SHRI P. V. RANGAYYA NAIDU:**  
Mr. Chairman, Sir, I have already answered this question. The need for coal washery or coal beneficiation plant is based on the distance of the coal field from the power plant. In the

pithead plant it is uneconomical to wash coal and use it because the transportation cost involved is much less. The increase in efficiency will not compensate for the cost of washing.

This is what I have already submitted. Though generally the coal available in India is of low grade, we are able to get the maximum out of it by designing the boilers accordingly. I have already said that improving the quality of coal for improving the quality of generation, that is, the PLF, is not cost effective. The difference in the cost of construction of the power project is marginal. As I said, if we use a higher-grade coal, there is risk of higher pollution with sulphur and also NOX. So, overall we find that we can use the coal available in the country and get the maximum out of it. In spite of that, where the plants are located more than a thousand kilometres or so away, we are setting up coal washeries so that we need not carry the overburden or lime stone or ash for long distances.

**श्री भूपेन्द्र सिंह मान :** सर, जो 56 सौ किलो कैलीरी कोल है और 62 सौ किलो कैलीरी कोल है, उसमें करीब 11 परसेंट कैलीरीज है। 11 परसेंट किलो कैलीरी ज्यादा होने से जो कास्ट आफ जनरेशन है, वह कम है। एक तो इसमें यह है और दूसरा अगर दूर ज्यादा ले जाने से कोयले की कास्ट बढ़ती है, तो करीब से करीब जनरेशन हो सकता है।

इसमें एक फेक्टर यह आता है कि जो इस वक्त अच्छी क्वालिटी और हायर ग्रेड का कोयला है, वह बिजली बोर्डों को या बिजली जनरेशन के लिये जाने के बजाय प्राइवेट सेक्टर में जा रहा है। यहां पर करप्शन फेक्टर आता है। वहां से अच्छी क्वालिटी का कोयला प्राइवेट लोग खरीद लेते हैं और बिजली के प्रोडक्शन के लिये अच्छी क्वालिटी का कोयला उपलब्ध नहीं हो पाता है। कहीं मंत्री जी यह इसलिये तो नहीं कर रहे हैं कि अच्छी क्वालिटी का कोयला नहीं है, कास्ट इफेक्टिव नहीं है, इससे जनरेशन कास्ट भी बढ़ती है, इसमें दो

परसेंट से ज्यादा कैपिटल कास्ट लगाने से वेरिफेशन नहीं होता। कहीं यह मतलब तो नहीं है कि नीचे के लोग जो करप्ट लोग हैं, उनको ऐसा कह कर समझाने की कोशिश करते हो ?

**SHRI P. V. RANGAYYA NAIDU:**  
Mr. Chairman, I am afraid this question relates to the Ministry of coal because we are given coal by what is called the Coal Linkage Committee which studies requests received from various plants and then allocates coal from different coal fields. We have no control on what type of coal is being supplied to other plants and what type of coal should be supplied to us. We take whatever coal is given to us by the Coal Linkage Committee under the Ministry of Coal.

**DR. MURLI MANOHAR JOSHI:** Sir, I have a question to put.

**MR. CHAIRMAN:** Please put your question.

**डा० मुरली मनोहर जोशी :** सभापति महोदय, मंत्री महोदय ने जब यहां पहले बयान दिया था, पांच मई को तो उन्होंने बताया था कि प्लानिंग कमिशन ने करीब करीब 20 हजार मैगावाट की नयी कैपेसिटी आठवीं पंचवर्षीय योजना के अन्दर उत्पन्न करने का निश्चय किया है। अब अगर उन्हीं के जवाब को मैं देखता हूं तो चार करोड़ रुपये के हिसाब से 80 हजार करोड़ रुपये की जरूरत इसके लिये इस एनर्जी को उत्पन्न करने के लिये इनको पड़ती है। आप इसमें फोरेन इनवेस्टर को बुला रहे हैं और उनको आप 16 परसेंट की गारंटी दे रहे हैं, 4.1 डेट इक्विटी रेश्यो दे रहे हैं ? आप उनको 38,400 करोड़ फोरेन एक्सचेंज में देंगे या यह कितना बड़ा ड्रेन आप कर रहे हैं। इसके बजाय अगर आप सतपुड़ा की मध्य प्रदेश की रिपोर्टें देखें, जिसकी रिपोर्ट की तरफ अग्रवाल जी ने भी इंगित किया था। सतपुड़ा बिजली बोर्ड के एक्सपेरिमेंट को देखते हुए यह पता लगता है कि प्लांट लोड फैक्टर 30 परसेंट तक बढ़ा सकते हैं, अगर आप

उनको अच्छी क्वालिटी का कोयला दें। यह अच्छी क्वालिटी का कोयला आप हिन्दुस्तान में वाशरीज खोल कर दे सकते हैं। अगर आप सिर्फ 100-110 वाशरीज खोलें, तो सिर्फ 11 हजार करोड़ रुपये आपको इनवेस्ट करने पड़ेंगे लेकिन आप 80 हजार करोड़ विदेशियों को देना चाहते हैं, मल्टी नेशनल्ज को देना चाहते हैं और 38,400 करोड़ रुपये की आप फोरेन एक्सचेंज खर्च करना चाहते हैं। मेरा प्रश्न आपसे यह है कि आप क्यों नहीं हिन्दुस्तान में वाशरीज स्थापित करें, जिनमें इनवेस्टमेंट भी कम है और इसमें आपके निजी रिसोर्सेज का भी उपयोग होगा, आपका प्लांट लोड फैक्टर भी बढ़ेगा और बिजली भी आप जल्दी से जल्दी दे सकेंगे, नहीं तो देश की कोई भी पंचवर्षीय योजना सफल नहीं हो सकेगी ? इसलिये आप बराए मैहरबानी प्रश्नों पर गम्भीरता से ध्यान दें और सदन को यह बतायें कि आप मुचुअली कंटाडिक्टरी स्टेटमेंट्स क्यों दे रहे हैं ? हिन्दुस्तान में कोयला रिसोर्सेज हैं, उनसे जो कोयला मिलता है, उसको हमारे उपयोग के लिये ठीक बनाने के लिये आप वाशरीज खोलें अगर आप नहीं खोलेंगे, तो 38,400 करोड़ रुपये का फोरेन एक्सचेंज ड्रेन क्यों कर रहे है ?

**SHRI P. V. RANGAYYA NAIDU:**  
Sir, I have already given a detailed reply. The idea of setting up coal washeries and beneficiation plants has been examined and found not feasible in the overall context of power generation of this country. We have already designed our plants in order to use low-grade coal and we cannot change the design now as it costs us some more money. Certainly, if new plants are being established... (Interruptions)...

**DR. MURLI MANOHAR JOSHI:** I have not said that. I said that it should be in the same plants and of the the same resin.

आप मध्य प्रदेश बिजली बोर्ड के सतपुड़ा के एक्सपेरिमेंट को देखें मने

कोई डिजाइन चेंज करने की बात नहीं कही है। जो कोयला हिन्दुस्तान में है, सिर्फ उसी को ठीक करने के लिये में में कह रहा हूँ।

Please don't mislead the House.

मैंने कभी यह नहीं कहा।

**THE MINISTER OF POWER (SHRI N.K.P. SALVE):** Sir, so far as the question relates to foreign investment, it is a different aspect of the matter. I should deal with it at some other time. So far as the question of washeries is concerned, the basic issue, so far as the power plant is concerned, is the economic viability of the washery. The beneficiation of coal in a washery is only 7 per cent. That kind of beneficiation will be helpful if the transport is for more than a thousand kilometres. Otherwise, it is not beneficial for us so far as power plants are concerned. If the coal mines are willing to put up, we have absolutely no objection.

**Israeli collaboration in the Yamunanagar Thermal Power Project**

\*702. **SHRI S. S. SURJEWALA:** Will the Minister of POWER be pleased to refer to answer to Starred Question 618 given in the Rajya Sabha on the 10th May, 1994 and state:

(a) what are the details of the agreement entered into between the Eisenberg group of companies of Israel and HSEB, the terms and conditions of the loan which will be advanced by the company and the construction schedule of the Yamunanagar Thermal Power Project;

(b) what will be the cost of electricity generated from the plant; and

(c) how much share of power Haryana will get from this plant?

**THE MINISTER OF STATE IN THE MINISTRY OF POWER (SHRI P. V. RANGAYYA NAIDU):** (a) to (c) A Statement is laid on the Table of the House.

**Statement**

(a) The Haryana State electricity Board (HSEB) and the Eisenberg Group of Companies (EGC) have entered into a Memorandum of Understanding (MOU) on the 5th April, 1994 to form a joint venture for the implementation of a 2x350 MW coal-fired power plant in the Yamunanagar District in Haryana. The MOU is valid for an initial period for 7 months with effect from 5th April, 1994 and extendable by mutual consent. The equity portion will constitute 25-35 per cent of the total investment and the balance will be debt. The final composition of the capital structure and the details of the terms and conditions of the loan will be based on the financial structure and requirement of lending institutions and capital market conditions. The tentative schedule of financial closing is February, 1995. The construction of the project will start thereafter. The anticipated commissioning schedule of the 1st Unit is 42 months (after construction starts) and that for the second unit is 6 months thereafter.

(b) The MOU provides, *inter-alia*, that an acceptable tariff rate fixed charge component at normative Plant Load Factor as per the notification shall be worked out. The variable cost component will be on the basis of actual cost. Thus, the generation cost will depend on the financial structure and the total capital cost of the project.

(c) The entire power generated would be purchased by Haryana State Electricity Board.

**SHRI S. S. SURJEWALA:** Mr. Chairman, Sir, first of all, I would like to say that the hon. Minister has not given a complete answer to my question. For instance, I had put a question, "What are the details of the agreement entered into between the Eisenberg group of companies of Israel and HSEB, the terms and conditions...;" The reply given by the Minister was, "The HSEB and the Eisenberg Group of com-