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Government of India  
Ministry of Coal  
Office of Nominated Authority**

Room No 120-F, Shastri Bhavan  
New Delhi- 110001  
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**Standard Operating Procedure in respect of National Lignite Index**

Standard Operating procedures (SOP) for National Lignite Index as approved by competent authority is attached herewith.

2. In view of the above it is requested that this Standard Operating procedures (SOP) may be considered for computing National Lignite Index henceforth.

*Ajitesh Kumar*

**(Ajitesh Kumar)  
Director**

Sr. TD, NIC. MoC :- with a request to upload Standard Operating Procedure for NLI on the website of MoC for information of all the stakeholders and general public.

## Standard Operating Procedure for National Lignite Index.

The Ministry of Coal (MoC) has decided to develop a National Lignite Index (NLI) for facilitating auction of lignite mines. Following the recommendation of a High-Powered Expert Committee (HPEC), National Coal Index (NCI) was roll-out from June 2020. A similar index for auction of Lignite mines was envisaged to track price movements of Lignite in the Indian market.

In the auction process, the National Lignite Index (NLI) and Representative prices (RP) will play very important role. The concept and design of the Index as well as the Representative prices is similar to that of National Coal Index and have been developed by the Indian Statistical Institute, Kolkata. It is envisaged that the NLI will be used in the auction of lignite mines in the same manner as NCI is used in the auction of coal blocks. Specifically, the quantum of revenue share from an auctioned mine will be linked to the movement of NLI.

**2.1 Brief Ingredients of NLI and RP:** NLI is a price index combining the prices of Lignite from all the channels- captive and commercial. The National Lignite Index will encompass all the domestic transactions of Lignite in the Indian market as under: -

- i. various quality grades
- ii. transactions in captive mode
- iii. Commercial transactions through auctions
- iv. Imports excluded

Presently there are Twenty Lignite mines of eight companies including Government and private. There are two channels for lignite use, one is captive and another is commercial. Majority of Lignite. i.e., 65.5% of lignite has been consumed captively, whereas, 34.5% of lignite has been sold in the market during FY 2017-18 to FY 2021-22. In the lignite sector, there is no Standardized Price Mechanism as compared to coal sector. For captive and commercial purpose, all the lignite Mines have their own price mechanism irrespective of grades and channels leading to price variation. For computation of NLI, monthly sale volumes and sale values from 20 mines, have been separately identified for various ranges of GCV in the captive and commercial transactions through auctions.

For compilation of NLI, monthly quantity of lignite used for captive and commercial purpose and its Unit Value/Basic Price for all 20(Twenty) Lignite mines will be collected and thereafter, Value of lignite for different grades & channels will be computed for its use in NLI as well as RP.

**List of Lignite Mines to be considered for Lignite index and Representative price: -**

S.no.	State	Company	Mine
1	Gujrat	GMDCL	RAJPARDI

2	Gujrat	GMDCL	PANANDRO
3	Gujrat	GMDCL	TADKESAR
4	Gujrat	GMDCL	MATA-NO-MADH
5	Gujrat	GMDCL	SURKA
6	Gujrat	GMDCL	UMARSAR
7	Gujrat	GIPCL	VASTAN
8	Gujrat	GIPCL	VALIA
9	Gujrat	GSPL	GHOGHA
10	Rajasthan	RSMML	GIRAL, BARMER
11	Rajasthan	RSMML	MATASUKH, NAGA
12	Rajasthan	RSMML	SONARI, BARMER
13	Rajasthan	BLMCL	KAPURDI
14	Rajasthan	BLMCL	JALIPA
15	Gujrat	GHCL	KHADSALIYA
16	Rajasthan	V.S. LIGNITE	GURHA EAST
17	Rajasthan	NLCIL	Barsingsar Lignite Mine
18	Tamil Nadu	NLCIL	Lignite Mine 1
19	Tamil Nadu	NLCIL	Lignite Mine 1A
20	Tamil Nadu	NLCIL	Lignite Mine 2

Grade categories of lignite coincide with the classification of grades of non-coking coal by gross calorific value (GCV), which has been in use since 1st January 2012. Ministry of Coal vide notification dated 20th Jan'2023 has declared grades for different GCV of lignite. Therefore, lignite index is compiled considering corresponding non-coking coal grades.

Coal Grades	GCV Range (Kcal/Kg)	Lignite Grades	GCV Range (Kcal/Kg)
G1	GCV exceeding 7000	<b>GL1</b>	<b>&gt;4000</b>
G2	GCV between 6701 & 7000		
G3	GCV between 6401 & 6700		
G4	GCV between 6101 & 6400		
G5	GCV between 5801 & 6100		
G6	GCV between 5501 & 5800		
G7	GCV between 5201 & 5500		
G8	GCV between 4901 & 5200		
G9	GCV between 4601 &		

	4900		
G10	GCV between 4301 & 4600		
G11	GCV between 4001 & 4300		
G12	GCV between 3700 & 4000	GL2	3701-4000
G13	GCV between 3400 & 3700	GL3	3401-3700
G14	GCV between 3101 & 3400	GL4	3101-3400
G15	GCV between 2801 & 3100	GL5	2801-3100
G16	GCV between 2501 & 2800	GL6	2501-2800
G17	GCV between 2201 & 2500	GL7	2201-2500

Since the lignite market is in transition, the composition of the NLI may be reviewed after **four years** for incorporating data of new lignite mines and grades which will come up in future.

#### **Exclusion of import data**

The aggregated monthly data on domestic transactions and imports during the five financial years 2017-2022 are given below: -

Year	Transactions volume (tonnes)		Transactions value (Million Rupees)		Import volume as % of total volume	Import value as % of total value
	Domestic transactions	Imports	Domestic transactions	Imports		
2017-18	45184908	10405	82411	117	0.02%	0.14%
2018-19	44887100	19366	78746	403	0.04%	0.51%
2019-20	43071837	54250	75896	1074	0.13%	1.40%
2020-21	37694537	18857	69676	409	0.05%	0.58%
2021-22	49151704	696732	90661	1046	1.40%	1.14%

Since imports comprised less than 2% of all transactions, both in terms of volume and value, these are excluded from the computation of NLI, for now. This decision also makes way for

faster computation of the NLI, as the DGCIS data generally becomes available several weeks after the end of a month.

**2.2 Process:** - For computation of NLI, monthly sale volumes and sale values from 20 mines, will be separately identified for various ranges of GCV in the captive mode and commercial transactions through auctions. Only Basic price of raw lignite will be considered for NLI & RP. For each grade, sales in captive and commercial mode will be treated as separate price channels. All transactions below G16/GL6 are labelled as "G17/GL7 or below. For each channel/grade sale value will be calculated by multiplying monthly sale volumes with basic price, provided by the respective lignite mines. Then monthly sale volume and value for each channel/grade will be placed in the excel template designed by the ISI team for compilation of NLI and RP.

FY 2021-22 has been taken as **base year** for a forward-looking index. Geometric Mean of monthly unit values of the base year 2021-22 is used in the denominator of the sub-indices for different price channels. The years 2017-22 excluding 2020-21 is chosen as reference period for computation of weights.

For each price channel, monthly unit value of transaction will be determined by dividing aggregate sales value with aggregate sales volume. Channels are for grades G11/GL1, G13/GL3, G14/GL4, G15/GL5, G16/GL6 and "G17/GL7 or below" for captive and commercial transactions.

**The complete list of all the price channels of NLI is given in the table below: -**

G11/GL1 commercial	G11/GL1 captive
G13/GL3 commercial	G13/GL3 captive
G14/GL4 commercial	G14/GL4 captive
G15/GL5 commercial	G15/GL5 captive
G16/GL6 commercial	G16/GL6 captive
"G17/GL7 and below" commercial	

**Sub-indices** for a particular month in a channel will be the unit value of transaction for that month relative to the unit value in Base Month. Index for a grade is a weighted average of the indices for captive and commercial channels of that grade. Value shares of the two modes in the reference period will be used as weights. There will be two sub-indices, one for G11/GL1 to G14/GL4 & another for G15/GL5 to G17/GL7 & below grades.

**National Lignite Index** is a weighted average of the grade specific indices. Value shares of grades in the reference period will be used as weights.

**Representative price** of a grade is a weighted average of monthly unit values in captive and commercial channels. Volume shares of the modes in the reference period will be used as weights.

**2.3 Weights of each Price Channels in the NLI and Representative prices:** The weights of various price channels for computation of the National Lignite Index is as under: -

<b>Grade</b>	<b>Commercial</b>	<b>Captives</b>	<b>Aggregate</b>
<b>G11/GL1</b>	4.08%	0.35%	4.43%
<b>G13/GL3</b>	3.08%	2.05%	5.13%
<b>G14/GL4</b>	6.12%	3.25%	9.37%
<b>G15/GL5</b>	22.51%	21.97%	44.48%
<b>G16/GL6</b>	0.43%	36.07%	36.49%
<b>G17/GL7 and below</b>	0.09%		0.09%
<b>All lignite</b>	36.31%	63.69%	100%
<b>Sub-indices Top Grade</b>	<b>13.28%</b>	<b>5.65%</b>	<b>18.93%</b>
<b>Sub-indices Bottom Grade</b>	23.03%	58.04%	81.07%

Similarly, weights for various price channels for computation of the Representative prices is as under: -

<b>Grade</b>	<b>Commercial</b>	<b>Captive</b>	<b>Aggregate</b>
<b>G11/GL1</b>	87.24%	12.76%	100.00%
<b>G13/GL3</b>	54.37%	45.63%	100.00%
<b>G14/GL4</b>	55.07%	44.93%	100.00%
<b>G15/GL5</b>	44.96%	55.04%	100.00%
<b>G16/GL6</b>	1.22%	98.78%	100.00%
<b>G17/GL7 &amp; below</b>	100%	0%	100.00%

3. **Data Collection:** Monthly quantity of lignite used for captive and commercial purpose and its Unit Value/basic price of all Twenty Lignite mines will be collected directly from concerned companies by 20th of each month. Historical values & Prices will be maintained in Excel based templates.

4. **Detailed compilation process of each type of prices:** For the purpose of compilation of both NLI and RP, one Excel based templates, designed by ISI Team, will be used.

**5. Substitution of Prices:** In compilation of the NLI or RP, we require monthly prices of captive and commercial transaction. If due to some reason, one price is not available, then substitute value is used. Any blank item will make the corresponding contribution as zero. In order to avoid this, the missing monthly prices from a Channel in a month will be substituted by Imputation method as suggested by Technical Advisory Committee of MoSPI. Imputation of missing value is made for unit price only. Since there are separate channels for captive & commercial transactions, therefore, for imputation of missing value, average price change from last month in rest of the transaction in a particular channel is multiplied by last month value of the missing grade. **For example:** - G11 captive value for Sept'2017 is missing. Average price change of captive channels of G13, G14, G15 & G16 from last months is multiplied by G11 captive Aug'2017 value to get imputed value.

**6. Detailed Flow Chart of the Operation:** The whole operation for the purpose of bringing out the NLI and RP from data collection stage to the publication stage may be summarized in the following table. This also shows the Officers responsible for each stage:

Stage	Officer Responsible	Remarks
Data Collection	Assistant Manager, O/o DDG	Monthly quantity of captive and commercial and its Unit Value/basic price to be collected from concerned companies.
Compilation of NLI and RP	Assistant Manager & Assistant Director, O/o DDG	Supervision by Deputy DG
Recommendation	Deputy DG	In the absence of Deputy DG, link officer to send the recommendation
Approval and Release	Deputy Secretary O/o Nominated Authority	Approval by Secretary (Coal)

**7. Periodicity:** The index is planned for monthly computation on the basis of data obtained from the mines. Therefore, The National lignite Index and Representative prices will be compiled and published for each month by end of the subsequent month.

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**Enclosed: - Detailed technical note on the National Lignite Index submitted by Indian Statistical Institute, Kolkata.**