नॉर्दर्न कोलफील्ड्स लिमिटेड
(मिनिरत्न कंपनी)
(कोल इण्डिया लिमिटेड की अनुषंगी कंपनी)

Northern Coalfields Limited
(AMiniratna Company)
(A subsidiary of Coal India Limited)

वि .यों एवं .विभाग /E&M Department

CIN- U10102MP1985GOI003160
An ISO: 9001, ISO: 14001 & OHSAS: 18001 Certified Company
पोस्ट- सिंगरौली कोलियरी,जिला- सिंगरौली, म.प्र., पिन 486889/ Post- Singrauli Colliery, Distt- Singrauli, M.P. PIN-486889
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NCL/SGR/E&M/2018/ 566 Dated: 26.06.2018

To
The Dy. General Manager(E&M)
Dudhichua Project

Sub: Pertaining to clarification regarding technical details of motors

Dear Sir,

The AC motor covered in approved MB 2017-18 in respect of your project are in procurement process, the technical details which had been provided by you on dated 07/06/2018 and 15/04/2018 require clarification. The sheet of details of sought clarification is attached herewith.

You are advised to submit the required clarifications at the earliest so that procurement process can be expedited.

Yours Sincerely,
(Ranjeet Verma)
GM(E&M)/HOD
NCL, SINGRAULI
26/6/18

Details of Clarification needed over the submitted Motors(horizontal foot mounted) Data of Dudhichua Project

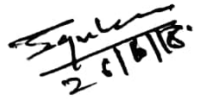
As per submitted and attached (page no.1 and2) Motors data, the clarifications are required as per IS:1231:1974 and IS:8223:1999

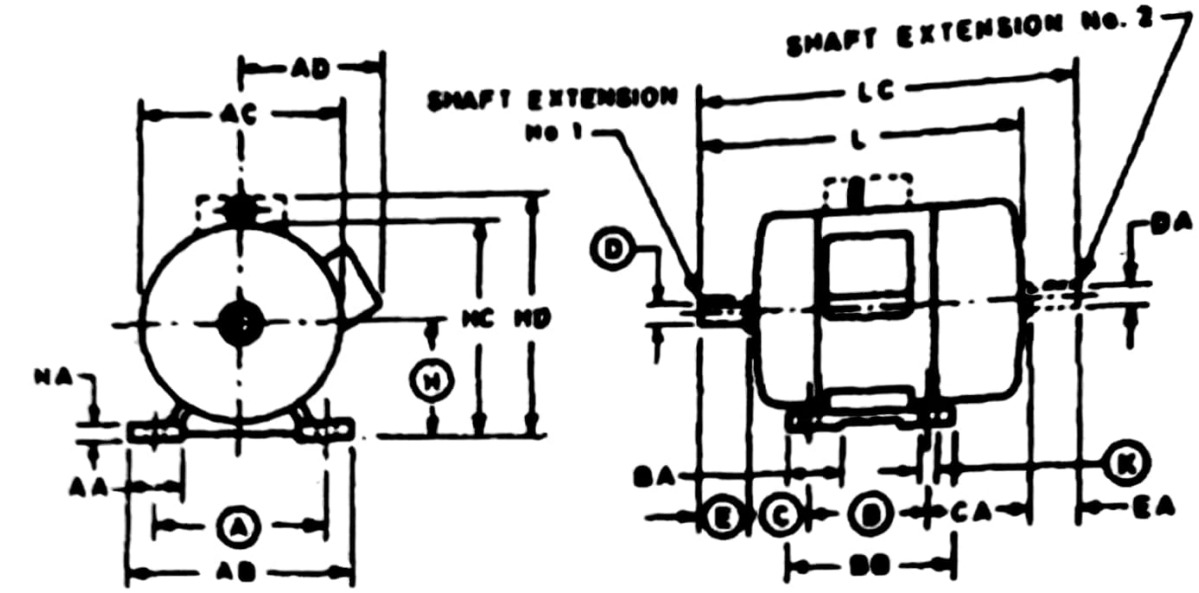
S.N	KW	Dimensions as per IS for given Frame Size in mm					The Dimensions in mm as per measurement of Project					
		A	B	C	D	E	A	B	C	D	E	Frame Size
1	150	450,475,500,530,560, 610,630,670,710,750, 800,850,900	280,315,355,400,450, 500,560,630,710,800, 900,1000,1120	0,100,200,224,250, 280,315,335,355,37 5,400,425,450,475, 500,530,560,600,63 0,710,750,800,900, 1000			-	-	-	-	-	355
2	132	500,530,560,610,630, 670,710,750,800,850, 900,950,1000	315,355, 400,450,500,560,630, 710,800,900,1000,112 0,1250	0,100,200,224,250, 280,315,335,355,37 5,400,425,450,475, 500,530,560,600,63 0,710,750,800,900, 1000			-	-	-	-	-	400
3	7.5	254	210	108	42	80	-	-	-	-	-	160M

Item 1:- Measure the value of A,B,and C and select and confirm the dimensions as per IS then measure the exact dimensions of D and E. There are two dimensions of E for given D, one dimension of E is for long series motor and other for short series motor, table of dimensions of E for given D of IS is attached for reference. Thus confirm the dimensions of A,B,C,D and E.

Item 2:- :- Measure the value of A,B,and C and select and confirm the dimensions as per IS then measure the exact dimensions of D and E. There are two dimensions of E for given D, one dimension of E is for long series motor and other for short series motor, table of E of IS is attached for reference

Item 3:- Measure and confirm the dimensions of A, B,C,D and E. Please also confirm that whether the synchronous speed is 1500 rpm or 1000 rpm because for given frame size 160M the output KW is 11KW for speed of 1500RPM and 7.5 KW for 1000RPM as per IS.





END VIEW
(LOOKING AT DRIVING END)

SIDE VIEW

The General Manager (E&M)/HOD
NCL Singrauli.

Sub: Submission of Technical details of motor covered in MB 2017-18 of Dudhichua Project
Ref: NCL/SGRL/E&M/218 dtd. 16.03.2018

Dear Sir,

Technical details of AC motors as below :

KW Out put	Squirel cage / sleep ring	Rated boltage	Dated current	Duty cycle	Insulation Class	standard motor/ flame proof / crane & hoist	Degree of protection	Method of cooling	Cable dia of termianal box	Terminal box location top / LHS / RHS	Diamention in mm B*,A*, H*,L, E HD soft dia AA	Frame size	Stator Winding connection	Unidirectional / bidirectional	Remarks if any
150 Kw	SCIM	6600 Volt	17.5 A	Continuous (S1)	Class- F	Standard motor	IP 55	Standard Fan cooling	Standard size with gland	RHS from drive end	Standard size	425	Delta / star	Bidirectional	Standard size
132 Kw	SCIM	6600 Volt	13.8 A	Continuous (S1)	Class- F	Standard motor	IP 55	Standard Fan cooling	Standard size with gland	RHS from drive end	Standard size	400	Delta / star	Bidirectional	Standard size
15 Kw	SCIM	415 Volt	28.0 A	Continuous (S1)	Class- F	Vertical mounting	IP 55	Standard Fan cooling	Standard size with gland	RHS from drive end	Standard size	180	Delta / star	Bidirectional	Vertical mounting
7.5 Kw	SCIM	415 Volt	14.0 A	Continuous (S1)	Class- F	Standard motor	IP 55	Standard Fan cooling	Standard size with gland	RHS from drive end	Standard size	160 m	Delta / star	Bidirectional	Standard size

This is for your kind information.

15/4/18
Incharge CHP
Dudhichua Project
K.P.Singh

Cc,
1. General Manager (E&M), Dudhichua : For kind information.
2. Project Officer , Dudhichua.
3. Project Engineer (E&M), Dudhichua.

COAL HANDLING PLANT
DUDHICHUA PROJECT

Clarification regarding motor data.

1) 150kW motor
   a) Frame size is 355(height).
   b) Rated rpm is 1477.
   c) Existing starting method is DOL.
   d) Conveyor drive with fluid coupling.
   e) Motor to be started and run in star configuration.

2) 132kW Motor
   a) Shaft diameter: 80mm
   b) Rated rpm: 1477
   c) Method of existing starting: DOL
   d) Nature of connected load: Conveyor drive with fluid coupling.
   e) Motor to be started and run in star configuration.

3) 15kW motor
   a) Flange type: B
   b) Flange diameter : 304mm, 4 holes, hole dia:19.5mm
   c) Shaft diameter:48mm
   d) Nature of load: Water pump
   e) Motor to be started and run in delta configuration.

4) 7.5kW Motor
   a) Mounting: horizontal, foot mounted.
   b) Foot mounted: mounting base will be fabricated, any size is fine. Height : 132mm
   c) Rated rpm: 1460
   d) Shaft diameter: 40mm
   e) Method of existing starting: DOL
   f) Nature of connected load: Lubrication pump of crusher.
   g) NA

16/10

In-Charge/CHP
Dudhichua Project

5 Shaft extension dimensions, keys and keyways. Greatest permissible torques on continuous duty for a.c. motors

Table 4

Diameter D (DA)			E[1] (EA)		Key						Keyway										
					F (FA)			GD (GF)			F (FA)					GE (GH)			GA (GC)	Greatest torque on continuous duty for a.c. motors[3]
Nominal value	Tolerance m6		Long series	Short series	Nominal value	Tolerance h9		Nominal value	Tolerance h11		Nominal value	Tolerance N9[2]		Tolerance P9[2]		Nominal value	Tolerance		Nominal value	
mm	μm	μm	mm	mm	mm	μm	μm	mm	μm	μm	mm	μm	μm	μm	μm	mm	μm	μm	mm	Nm
90	+35	+13	170	130	25	0	−52	14	0	−110	25	0	−52	−22	−74	9	+200	0	95	1900
95	+35	+13	170	130	25	0	−52	14	0	−110	25	0	−52	−22	−74	9	+200	0	100	2360
100	+35	+13	210	165	28	0	−52	16	0	−110	28	0	−52	−22	−74	10	+200	0	106	2800
110	+35	+13	210	165	28	0	−52	16	0	−110	28	0	−52	−22	−74	10	+200	0	116	4000
120	+35	+13	210	165	32	0	−62	18	0	−110	32	0	−62	−26	−88	11	+200	0	127	5300
125	+40	+15	210	165	32	0	−62	18	0	−110	32	0	−62	−26	−88	11	+200	0	132	6000
130	+40	+15	250	200	32	0	−62	18	0	−110	32	0	−62	−26	−88	11	+200	0	137	
140	+40	+15	250	200	36	0	−62	20	0	−130	36	0	−62	−26	−88	12	+300	0	148	
150	+40	+15	250	200	36	0	−62	20	0	−130	36	0	−62	−26	−88	12	+300	0	158	
160	+40	+15	300	240	40	0	−62	22	0	−130	40	0	−62	−26	−88	13	+300	0	169	
170	+40	+15	300	240	40	0	−62	22	0	−130	40	0	−62	−26	−88	13	+300	0	179	
180	+40	+15	300	240	45	0	−62	25	0	−130	45	0	−62	−26	−88	15	+300	0	190	
190	+46	+17	350	280	45	0	−62	25	0	−130	45	0	−62	−26	−88	15	+300	0	200	
200	+46	+17	350	280	45	0	−62	25	0	−130	45	0	−62	−26	−88	15	+300	0	210	
220	+46	+17	350	280	50	0	−62	28	0	−130	50	0	−62	−26	−88	17	+300	0	231	

[1] In cases where the operating conditions are well defined, shaft extension dimensions may also be selected in accordance with existing ISO standards.
[2] The keyway tolerance N9 applies for normal keys, and P9 for filted keys.
[3] The torque values are chosen from the R 40 series. In cases where the operating conditions are well defined, torque values might also be selected in accordance with existing ISO standards.