

**CONTRACT QUALITY REQUIREMENTS (CQR) for ELEVATORS FOR FGD APPLICATION**

<b>PROJECT:</b> UPRVUNL Panki (1 X 660 MW) <b>CONSULTANT: NTPC</b> <b>CONTRACT NO.:</b> 14A14-SPC-G-0001  <b>PACKAGE: FGD Package</b> <b>CONTRACTOR:</b> BHEL - RANIPET	<b>CONTRACT QUALITY REQUIREMENTS (CQR)</b> <b><u>ELEVATORS FOR FGD APPLICATIONS.</u></b>  <b>UPRVUNL Panki (1 X 660 MW)</b> <b>FGD Project</b>  (BHEL WO R4U2)	<b>DOC.NO:</b> BAP/QR/Elevators <b>Panki: 001</b> <b>Rev No: 00</b> Page   1 of 5 Date: 09.02.2021	<b>##Enquiry No:</b>  <b>##Supplier Name:</b>  <b>##Offer reference:</b>  <b>##Date:</b>
<b>Sl. NO.</b>	<b>DESCRIPTION</b>	<b>BHEL and Ultimate Customer – UPRVUNL PANKI &amp; its consultant NTPC Quality Requirements</b>	<b>##Specific confirmations by the vendor</b>

**ITEM: ELEVATORS FOR FGD APPLICATIONS.**

01	<b>Quality Plan Requirement</b>	<ol style="list-style-type: none"> <li>1. RQP or MQP is applicable for these Elevators for FGD application.</li> <li>2. Accordingly, Actual Elevator (OEM) shall submit the RQP/MQP in ultimate customer – UPRVUNL's consultant NTPC format.</li> <li>3. If any of Elevator manufacture is having, ultimate customer UPRVUNL's consultant NTPC approved MQP (Manufacturing Quality Plan) / RQP (Reference Quality Plan) and having validity, the same is applicable for these Elevators for inspection subject to obtaining ultimate customer UPRVUNL and its consultant NTPC formal approval in the event of an order through endorsement sheet approval route as in sl no: 3 below</li> <li>4. Accordingly, Elevator (OEM) Manufacture shall submit the filled up Endorsement sheet (copy attached) with ultimate customer UPRVUNL's consultant NTPC approved MQP/RQP with signature &amp; seal in the event of an Purchase Order from BHEL.</li> <li>5. If Elevator does not have MQP/RQP, they should submit a fresh MQP to BHEL/ Ultimate customer UPRVUNL's consultant NTPC (in NTPC format) for review &amp; approval. (copy attached).</li> </ol>	
02	<b>BHEL / Ultimate Customer – UPRVNL and NTPC approved vendors</b>	<p>LT Motors are to be procured only from following Ultimate Customer – UPRVUNL and its consultant NTPC approved vendors and no deviation on this specific requirement is acceptable.</p> <ul style="list-style-type: none"> <li>➤ KEC / Bengaluru (Up to 200KW) &amp; Hubli (Up to 90KW)</li> <li>➤ CGL/Ahmednagar (Up to 200KW)</li> <li>➤ SIEMENS/Mumbai (Up to 200KW)</li> <li>➤ ABB/Faridabad (Up to 55KW) and Bengaluru (Up to 200KW)</li> <li>➤ BBL/Mumbai (Up to 200KW)</li> <li>➤ Marathon / Kolkatta (Up to 200KW)</li> <li>➤ Laximi Hydraulics Private Limited (LHPL) / Solapur (Up to 200KW)</li> </ul>	

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<b>Sl. NO.</b>	<b>DESCRIPTION</b>	<b>BHEL and Ultimate Customer – UPRVUNL PANKI &amp; its consultant NTPC Quality Requirements</b>	<b>##Specific confirmations by the vendor</b>

**ITEM: ELEVATORS FOR FGD APPLICATIONS.**

03	<b>Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM – Elevator</b>	<b><u>LT Motors up to 30KW – Inspection Categorization: III</u></b>  All Routine tests on LT Motors are to be ensured by OEM – Elevator Vendor & same are to be inspected & witnessed by OEM Vendor / BHEL / BHEL AIA (BHEL authorized inspection Agency) at LT Motor manufacture works as per approved MQP & approved data sheet / drg / spec/ as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc and all the Routine Test Reports with Inspection report (IR) to be submitted for BHEL/Ultimate Customer – UPRVNL & NTPC for review and to obtain inspection and dispatch clearance .	
		<b><u>LT Motors (30KW to 50KW) – Inspection Categorization: II</u></b>  All Routine Tests on LT Motors are to be ensured by OEM ELEVATOR vendor & witnessed by BHEL/BHEL AIA (BHEL authorized inspection Agency) at LT Motor manufacture works including review of Type Test Reports and Degree of Protection Test Reports (IP 55) as per approved MQP & approved data sheet/drg/spec / as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc and all the Routine Test Reports with Inspection report (IR) to be submitted for BHEL/Ultimate Customer – UPRVNL & NTPC for review and to obtain inspection and dispatch clearance .	
		<b><u>Above 50KW and up to 200KW – Inspection Categorization: I</u></b>  All Routine & Type Tests if any on LT Motors are to be ensured by OEM – ELEVATOR Vendor and same shall be offered to BHEL/ BHEL AIA (BHEL authorized inspection Agency) / Ultimate Customer- UPRVNL / NTPC (As applicable) for inspection & witnessing including review of Degree of Protection Test Reports as per approved MQP /RQP with endorsement sheet / approved data sheet / drg / spec / as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc and all the Routine Test Reports , Type test Reports including Degree of protection test report with Inspection report (IR) to be submitted for BHEL/Ultimate Customer – UPRVNL & NTPC (As applicable) for review and to obtain inspection and dispatch clearance .	

**CONTRACT QUALITY REQUIREMENTS (CQR) for ELEVATORS FOR FGD APPLICATION**

<b>PROJECT:</b> UPRVUNL Panki (1 X 660 MW) <b>CONSULTANT:</b> NTPC <b>CONTRACT NO.:</b> 14A14-SPC-G-0001  <b>PACKAGE:</b> FGD Package <b>CONTRACTOR:</b> BHEL - RANIPET	<b>CONTRACT QUALITY REQUIREMENTS (CQR)  <u>ELEVATORS FOR FGD APPLICATIONS.</u></b>  <b>UPRVUNL Panki (1 X 660 MW)  FGD Project</b>  <b>(BHEL WO R4U2)</b>	<b>DOC.NO:</b> BAP/QR/Elevators <b>Panki: 001</b> <b>Rev No: 00</b> Page   3 of 5 Date: 09.02.2021	<b>##Enquiry No:</b>  <b>##Supplier Name:</b>  <b>##Offer reference:</b>  <b>##Date:</b>
<b>SI. NO.</b>	<b>DESCRIPTION</b>	<b>BHEL and Ultimate Customer – UPRVUNL PANKI &amp; its  consultant NTPC Quality Requirements</b>	<b>##Specific confirmations  by the vendor</b>

**ITEM: ELEVATORS FOR FGD APPLICATIONS.**

03	<b>Inspection  Methodology.....Contd</b>	BHEL/ BHEL AIA (BHEL authorized inspection Agency) ) / Ultimate Customer- UPRVNL / NTPC (As applicable) to witness / perform inspection at LT Motor Supplier works and submit all the inspection documents and routine & Type test reports including Degree of Protection Test Reports (IP 55) as per approved MQP & approved data sheet / drg / spec / as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc.  No material shall be dispatched without BHEL / BHEL AIA and Ultimate Customer – UPRVNL / NTPC (As applicable) Inspection and dispatch clearance.	
04	<b>Painting Requirements</b>	Painting requirement like paint shade and painting thickness including no of coats if any are to be ensured by the OEM vendor for these Elevators/ LT Motors as per BHEL/ Ultimate Customer – UPRVUNL and its consultant NTPC (As applicable) approved data sheet/drg/spec (As applicable).	
05	<b>Packing</b>	Packing shall be as per Specification / Drg. / Data sheet including sea worthy packing if any to avoid any transit & handling damages.	
06	<b>For Inspection call</b>	Inspection call by OEM Vendor for LT Motor inspection at Actual LT Motor Manufacture works to be raised for BHEL/BHEL AIA inspection / Ultimate Customer – NTPC including for type test witnessing if any to be ensured / addressed to Mr R Kesavan., DGM (QC-Proc)., Mobile no: +91 9443006303., Email id: kesavan@bhel.in and Mr Zeeshan Ali., Sr. Engineer (QC-Proc)., Mobile no: +91 8903502628., Email id: zeeshan@bhel.in including for inspection related activities for immediate response / resolution.	
07	<b>Document Package /  Dossier</b>	Specific confirmation for Document Package in the event of an order (3 hard copies + soft copies in PDf file) is to be given containing the following with proper linkages (.) (i) Index Sheet (ii) MQP/RQP/Endorsement sheet (iii) TCs identified by BHEL/UPRVNL / NTPC for record for “CHP” (Customer Hold Point) Verification & Witness “W” portion as given in MQP / RQP / MQP (as applicable). (iv) Final Inspection Report + TC (v) BHEL AIA (BHEL Appointed Inspection Agency) / BHEL report + TC	

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<b>Sl. NO.</b>	<b>DESCRIPTION</b>	<b>BHEL and Ultimate Customer – UPRVUNL PANKI &amp; its consultant NTPC Quality Requirements</b>		<b>##Specific confirmations by the vendor</b>

**ITEM: ELEVATORS FOR FGD APPLICATIONS.**

		(vi) Ultimate customer UPRVNL / NTPC CHP (Customer Hold Point) / MDCC) (vii) Type test reports conducted /submitted with approval (If any) with approved data sheet and BOM with actual make used with Customer approved drgs.	
08	Important notes	<b><u>Inspection Categorization: I</u></b>  Inspection by BHEL/BHEL AIA and also by Ultimate Customer – UPRVUNL/Consultant NTPC based on MQP/RQP approved and as in sl no:03  <b><u>Inspection Categorization: II</u></b>  Inspection by Main contractor (BHEL) / BHEL AIA based on Ultimate Customer UPRVUNL/Consultant NTPC approved MQP/RQP & based on inspection as in sl no:03  <b><u>Inspection Categorization: III</u></b>  COC by Main contractor (BHEL) to Ultimate Customer – UPRVUNL/Consultant NTPC based on inspection as in sl no:03.	
		Any cost implication for conducting checks / tests including for witnessing of any of the tests at Elevator/Actual LT Motor Manufacture Works by BHEL / BHEL AIA / Ultimate Customer – UPRVNL/ Consultant NTPC is in the scope of OEM Supplier only and no extra cost if any will be admissible in the event of an order and also during execution of the contract.	

**Supplier signature with seal**

**## Necessarily to be filled up & submitted by the OEM vendor at the time of offer itself otherwise the offer may not be considered w.r.t Quality Requirements against LT Motors being BHEL/ ultimate customer – UPRVNL and its consultant NTPC (National Thermal Power Corporation Limited) specific requirements.**

ENDORSEMENT SHEET FOR RQP/SQP/MQP (As applicable)			
TO BE FILLED IN BY SUPPLIER AT TIME OF SUBMISSION			To be filled in by NTPC
PROJECT NAME	UPRVUNL Panki (1 X 660 MW) FGD (CONSULTANT NTPC) BHEL WO No.: R4U2	<b>REVIEW &amp; ENDORSEMENT BY NTPC</b> <b>PROJECT SPECIFIC QP NUMBER ALLOTTED</b> <b>QP NO.:</b> <b>REV.NO.:</b> <b>DATE:</b> ** The RQP/SQP/RFQP/SFQP once endorsed for a particular contract shall remain valid even through the original QP may have expired or revised, unless / otherwise mutually agreed by the supplier. (1)	
CONTRACT NO.:	14A14-SPC-G-0001		
MAIN SUPPLIER	BHEL RANIPET		
MANUFACTURER WORKS & ADDRESS	(To be filled by OEM – Elevator Vendor)		
ITEM / EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE /SIZE/RATING etc.	ELEVATORS FOR FGD APPLICATION		
APPROVED RQP/SQP/MQP (As applicable).:	(To be filled by OEM – Elevator Vendor)		
Confirmation by Main Supplier (TICK WHICHEVER APPLICABLE)		(TICK APPLICABLE)	
I. That the item / component is identical to that considered for type test procedure approval. OR		<b>The Type test procedure is endorsed for this project without change</b>	
II. That there are minor changes in the item/ component with respect to that considered for type test procedure approval, however the same do not affect the contents of type test procedure. OR			
III. That there are minor changes in the item/ component with respect to that considered for Type test procedure Approval, however the same affect the type test procedure slightly, as indicated below / in attached sheet.			
		The type test procedure is endorsed for this project with change indicated <u><b>DISTRIBUTION OF ENDORSEMENT OF</b></u> <b>A) RQP/SQP:</b> 1.MAIN SUPPLIER (WITH A COPY OF TTP) 2.MANUFACTURER 3.RIO 4.CQA-SPL 5.CQA-O/C <b>B) REQ/SFQP:</b> 1.MAIN SUPPLIER (with a copy of TTP) 2.MANUFACTURER 3.NTPC FQA (with a copy of TTP) 4.NTPC Erection (with a copy of TTP) 5.CQA-SPL 6.CQA-O/C	
(To be signed & filled by OEM – Elevator Vendor) SIGN.: (Manufacturer)                      DATE:		NTPC (Reviewed /Approved by / Date & Seal)	

FORMATE NO.: QS-01-QAI-P-10/F5-R1

ENGG.DIV./QA

OEM-ELEVATOR MANUFACTURER LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN (For indicative and information purpose)		PROJECT:
		Item: ELEVATORS Sub-Subsystem: FGD	QP No.: Date:	Rev.No.: Page:

SI	Components & Operation	Characteristic	Class	Type of Check	Quantum of Check		Reference document	Acceptance Norms	Format of Record		Inspection Agency			Remarks
					M	C/B					M	C	N	
1	2	3	4	5	6		7	8	9	D*	10			11
A	Raw Material													
A1	Structural: M.S.: Plates, Angle, & channel for Car platform Car frame, Chequered Plates, Sheet for control, Panel Box	Dimension	Major	Measure	100%		Approved Drg /Data sheet/Manufacturer Drg	IR	-	P	-	-		
		Chemical composition	Major	Chemical test	1 Sample/heat			Test Report	√	V	V	V	V	
		Mechanical properties	Major	Mechanical test	1 Sample/heat/ HT/Batch			Test Report	√	V	V	V	V	
A2	Casting-Sheave, Over speed governor, Wheel, Brake drum	Chemical composition	Major	Chemical test	1 Sample/heat		Approved Drg /Data sheet/ Manufacturer Drg	Test Report	√	V	V	V	In case of Cast Iron Chemical test is N/A	
		Mechanical properties	Major	Mechanical test	1 Sample/heat/ HT/Batch				√	V	V	V		V
A3	SS Sheets	Chemical composition	Major	Chemical test	1 Sample/heat		Approved Drg /Data sheet/ Manufacturer Drg	Test Report	√	V	V	V	In absence of correlated TC check testing shall be done	
		Mechanical properties	Major	Mechanical test	1 Sample/heat/ HT/Batch				√	V	V	V		V
		Sheet thickness	Major	Measure	100%	100%			√	P	V	V		
B	Bought out Items													
B1	T Guide rail	Chemical composition	Major	Chemical test	1 Sample/Lot		Approved Drg /Data sheet/ Manufacturer Standard	Test Report	√	V	V	V		
		Mechanical properties	Major	Mechanical test	1 Sample/Lot				√	V	V	V	V	
		Visual & dimensional	Major	Visual & Measure	Random 5% (Each Size)			IR		P	-	-		

Elevator suppliers not having NTPC approved RQP/MQP shall submit their MQP in line with this Indicative MQP for BHEL and NTPC review and approval.

		LEGENDS:	For NTPC Use			
OEM SUPPLIE	MAIN (BHEL)SUPPLIER					
SIGNATURE						

OEM-ELEVATOR MANUFACTURER LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN (For indicative and information purpose)		PROJECT: PACKAGE: CONTRACT NO: MAIN CONTRACTOR: BHEL RANIPET
		Item: ELEVATORS Sub-Subsystem: FGD	QP No.: Date: Rev.No.: Page:	

Sl	Components & Operation	Characteristic	Class	Type of Check	Quantum of Check		Reference document	Acceptance Norms	Format of Record		Inspection Agency			Remarks
					M	C/B					M	C	N	
1	2	3	4	5	6		7	8	9	D*	10			11
B2	Wire ropes	Make, Identification, Dimension, Construction & Breaking strength	Major	Visual & TC review	100% (Each Batch)		IS 2365/Approved drawing/ data sheet		MTC	√	V	V	V	Refer Note 4
B3	Gear Boxes	Make & review of MTC for backlash, Reduction ratio, No load run test (Noise level, Temp Rise & oil leakage)	Major	Visual & TC review	100%		Approved Drg /Data sheet/ Manufacturer Standard		MTC	√	V	V	V	Refer Note 4
B4	Lift Buffers	Chemical composition	Major	Chemical test	1 Sample/heat		Approved Drg /Data sheet/ Manufacturer Standard		MTC/ Check Test report	√	V	V	V	
		Mechanical properties	Major	Mechanical test	1 Sample/heat					√	V	V	V	
		Buffer Stroke	Major	Measure	One No/size/Lot		IS 14665			√	V	V	V	
		Dimension	Major	Measure	100%	-	Manf drg			IR	-	P	-	-
B5	Counter weight	Type, weight	Major	Visual	100%	-	Manf drg		-	-	V	-	-	
B6	Batteries, Limit switch, braking resistor, MCB, contactor, Aux Relay, Push button, Infra-red curtain, wires, cables, VVF drive control, Transformer	Make, Type, rating	Major	Visual	100%	100%	Approved Drg/Data sheet/Manuf drg/ Relevant standards		IR	√	P	V	V	Refer Note 4
		Routine test	Major	test	100%	100%			MTC/CoC	√	V	V	V	
B7	Microprocessor card	Model, Functional check	Major	Visual	100%	-	Manufacturer Standard		CoC	√	V	V	V	
		Routine test	Major	Verification	100%	100%			IR	√	V	V	V	
B8	Motor	Make/Type/ rating	Major	Visual	100%	100%	refer Note-1		IR	-	P	V	V	Refer Note 4
		Routine test	Major	Verification	100%	100%			IR/CoC	√	V	V	V	

		LEGENDS:	For NTPC Use		
OEM SUPPLIE	MAIN (BHEL)SUPPLIER				
SIGNATURE					

OEM-ELEVATOR MANUFACTURER LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN (For indicative and information purpose)		PROJECT:
		Item: ELEVATORS Sub-Subsystem: FGD	QP No.: Date:	Rev.No.: Page:

SI	Components & Operation	Characteristic	Class	Type of Check	Quantum of Check		Reference document	Acceptance Norms	Format of Record		Inspection Agency			Remarks
					M	C/B					M	C	N	
1	2	3	4	5	6		7	8	9	D*	10			11
C	In-Process Inspection													
C1	Sheaves, Over speed Governor wheel after machining	Visual & dimensional	Major	Visual & Measure	100%	-	Manufacturer drawing		IR	-	P	-	-	
C2	Car Panel - After Forming	Visual & dimensional	Major	Visual & Measure	Random	-	Manufacturer drawing		IR	-	P	-	-	
C3	Welding operation in structural	WPS, PQR & WPQ	Major	Verification	100%	100%	Appd WPS, ASME Sec IX	ASME Sec IX	QW-182-184	√	P	V	V	Refer Note 2
		Marking & Cutting	Major	Visual & Measure	100%	-	Manufacturer drawing		IR	-	P	-	-	
		Edge preparation	Major	Visual & Measure	100%	-	Manufacturer drawing/ Approved WPS		IR	-	P	-	-	
		Weld joint size/ Location/ Welder No. Correlation	Major	Marking, Verification	100%	-	Manufacturer drawing/ Approved WPS		-	-	P	-	-	
		DP test on weld	Major	NDT	100%	10%	ASTM E-165	No defect	DPT report	√	P	V	V	
		Dimensional check after final fabrication & Machining	Major	Measure	100%	100%	Manufacturer drawing		IR	-	P	-	-	
C4	Brakes-EM (Coil) function test before and after burn test	Make	Major	Verification	100%	-	Manufacturer Standard		IR	-	P	V	V	Refer Note 4
		IR, HV	Major	Measure	100%	100%			IR	-	P	V	V	
C5	Burn in Test of Control panel	Functional test before and after Burn in test	Major	Test	100%	100%	As per Test Procedure to be submitted		IR	-	P	V	V	
		Temp Rise in the Cubicle	Major	Measure	100%	100%	As per Test Procedure to be submitted			-	P	V	V	
C6	Control panel fabrication	Dimension	Major	Measure	100%	-	Manufacturer drg		IR	-	P	-	-	

		LEGENDS:	For NTPC Use			
OEM SUPPLIE	MAIN (BHEL)SUPPLIER					
SIGNATURE						

OEM-ELEVATOR MANUFACTURER LOGO	MANUFACTURER'S NAME & ADDRESS	MANUFACTURING QUALITY PLAN <b>(For indicative and information purpose)</b>		PROJECT:
		Item: ELEVATORS Sub-Subsystem: FGD	QP No.: Date:	Rev.No.: Page:

SI	Components & Operation	Characteristic	Class	Type of Check	Quantum of Check		Reference document	Acceptance Norms	Format of Record		Inspection Agency			Remarks
					M	C/B					M	C	N	
1	2	3	4	5	6		7	8	9	D*	10			11
D	Final Inspection													
D1	Assembled machinery unit (Motor & Gear)	No load run test for 30 min-check for vibration, Oil leakage, Brake function	Major	Test & Measure	100%	1 No/ Capacity (kg)/ Offered Lot	As per Test Procedure to be submitted	IR	√	P	W	W		
D2	Car door operator assembly	Dimensions (Clear opening)	Major	Test & Measure	100%	1 No/ Capacity (kg)/ Offered Lot	Approved drawing/ data sheet	IR	√	P	W	W		
		Function	Major	Test & Visual	100%		As per Test Procedure to be submitted	IR	√	P	W	W		
D3	Assembled car	Dimension (Depth, Width, Height)	Major	Measure	100%	1 No/ Capacity (kg)/ Offered Lot	Approved drawing/ data sheet	IR	√	P	W	W		
D4	Over speed governor	Calibration	Major	Measure	100%		IS 14665	IR	√	P	W	W		
D5	Control Panel	Panel mounted instrument & wiring check	Major	Visual & Measure	100%	1 No/ Capacity (kg)/ Offered Lot	proper ferruling, termination etc. Only agreed makes to be used	-	√	P	W	W		
		Dimension	Major	Measure	100%		Approved Drawing & Data sheet	IR	√	P	W	W		
		Paint shade, Paint thk, & adhesion test	Major	Visual & Measure	100%	1 No/ Capacity (kg)/ Offered Lot	Approved Drawing & Data sheet	IR	√	P	W	W		
		Degree of protection by paper insertion	Major	Visual	100%		When door is closed, paper should not pass (A4 paper approx. 115μ)	IR	√	P	W	W		
		Functional check	Major	Measure	100%		As per Test Procedure to be submitted	IR	√	P	W	W		
D6	Packing	Proper packing	Major	Verification	100%	-	Manufacturer packing list	Packing list	√	P	-	-		

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SIGNATURE						

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		Item: ELEVATORS Sub-Subsystem: FGD	QP No.: Date:	Rev.No.: Page:

D7	Mandatory spares	Verification of spares as per PO and correlation/check as per mother equipment	Major	Review of Internal Inspection reports MFR's TC	100%	100%	PO/Customer approved document	IR	v	P	V	V	
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Notes													
1	<p><b>Motor power rating less than 30 kW:</b> Acceptance is based on CoC of the manufacturer &amp; the contractor confirming as follows: "It is hereby confirmed that the above mentioned motor(s) was/were manufactured taking care of NTPC specific requirements regarding ambient temp., Voltage &amp; frequency variation, Hot starts pull out torque starting kVA/kW, Temp rise distance between centre of stud &amp; Gland plate &amp; is tested in accordance with approved drawing data sheets"</p> <p><b>Motor power rating more than 30 kW upto 50 kW:</b> Acceptance is based on NTPC review of routine test inspection report as per IS:325 witnessed by main contractor along with CoC of the manufacturer &amp; the contractor giving confirmation as for motor upto 30 kW.</p> <p><b>Motor power rating more than 50 kW:</b> Separate RQP/MQP shall be submitted for NTPC review</p>												
2	NTPC/BHEL/LLOYD/BVQI/TUV approved and qualified WPS shall be used for fabrication. Only NTPC/BHEL/ LLOYD/BVQI/TUV approved welders shall be engaged for welding												
3	HV test on control panels will be done isolating VVF drive and other electronic parts , HV test at 2 kV for power and 1.5 kV for control circuit												
4	List of makes for the bought out items like VVF drive, Trailing cable, Power cable, Control Cable, Battery, Motor, Contactor, Control transformer, MCB, Aux. relay, Infrared curtain, Limit switch, Braking resistor, Panel, Mounted instruments, Gear box, Steel wire ropes etc shall be submitted along with the QP.												

		LEGENDS:	For NTPC Use			
OEM SUPPLIE	MAIN (BHEL)SUPPLIER					
SIGNATURE						

Elevator Manufacturers shall conform to submit the following along with QP:-

1. Test Procedure for Burn In Test of Control Panel, Assembled Machinery (Motor & Gear), Car Door Operators, Control Panel Testing in the format given below.
2. List of Make for Bought Out Items for Ultimate Customer NTPC approval.

<b>Enq:</b>		This Procedure is Part of QAP Elevator	
Manufacturer Logo	Manufacturer Name & Address	<b>Control No</b>	
		<b>Issue No</b>	
		<b>Rev No</b>	
		<b>Issue Date</b>	

Test Procedure for BURN IN TEST CONTROL PANEL

- 1.
- 2.
- 3.

	<b>Prepared By</b>	<b>Approved By</b>	<b>Page</b>
Name:			
Designation			
Stamp			

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Manufacturer Logo	Manufacturer Name & Address	<b>Control No</b>	
		<b>Issue No</b>	
		<b>Rev No</b>	
		<b>Issue Date</b>	

Test Procedure for ASSEMBLED MACHINERY UNITS (MOTOR and GEAR)

- 1.
- 2.
- 3.
- 4.

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<b>Enq:</b>		This Procedure is Part of QAP Elevator	
Manufacturer Logo	Manufacturer Name & Address	<b>Control No</b>	
		<b>Issue No</b>	
		<b>Rev No</b>	
		<b>Issue Date</b>	

**Test Procedure for CAR DOOR OPERATORS**

- 1.
- 2.
- 3.
- 4.

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Enq:		This Procedure is Part of QAP Elevator	
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		Issue No	
		Rev No	
		Issue Date	

### CONTROL PANEL TESTING

SI	Parameter	Related Procedure	Acceptance Limit	Observation
1	Car Interlocks			
2	Landing Interlocks			
3	Normal / Inspection Mode			
4	Floor read Switches			
5	Final cut Safety Switch (Up & Down)			
6	RD (Home floor Arrival)			

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Enq:		This Procedure is Part of QAP Elevator	
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		Rev No	
		Issue Date	

### CONTROL PANEL TESTING

SI	Parameter	Related Procedure	Acceptance Limit	Observation
7	Car Calls			
8	Hall Calls (Landing)			
9	Call Register LED			
10	Auto / Wait man (Attendant mode)			
11	Up & Down Arrow			
12	Position Indicator			
13	Fire Man Application			
14	Auto Fan Functions			
15	Up & Down Drive			
16	Auto Door Signal			

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Enq:		This Procedure is Part of QAP Elevator	
Manufacturer Logo	Manufacturer Name & Adress	Control No	
		Issue No	
		Rev No	
		Issue Date	

### CONTROL PANEL TESTING

SI	Parameter	Related Procedure	Acceptance Limit	Observation
17	Brake supply – 110 volt DC			
18	Fan Supply			
19	Speech Processor			
20	ARD System			
21	Earthing Strip			
22	Wire for Earthing			
23	Drive			
24	Label provided			

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