PUBLIC PROCUREMENT REGULATORY <u>AUTHORITY (PPRA)</u> CONTRACT AWARD PROFORMA – I

To Be Filled And Uploaded on PPRA Website In Respect of All Public Contracts of Works, Services and Goods Worth Fifty

Million or More

7	NAME OF THE ORGANIZATION/DEPTT. Pakistan Civil Aviation Authority		
	FEDERAL / PROVINCIAL GOVT. Federal Govt. (Autonomous)		
>	TITLE OF CONTRACT REPLACEMENT OF EXISTING OLD		
	ESCALATOR NOS. 17, 18, 19 & 20 WITH NEW		
	ESCALATORS INSTALLED IN CONCOURSE		
	HALL OF JIAP		
>	TENDER NUMBER 8526		
~	BRIEF DESCRIPTION OF CONTRACT REPLACEMENT OF EXISTING OLD		
	ESCALATOR NOS. 17, 18, 19 & 20 WITH NEW ESCALATORS INSTALLED		
	IN CONCOURSE HALL OF JIAP		
	TENDER VALUERs. 2500/-		
×	ENGINEER'S ESTIMATE N/A (for civil Works only)		
	ESTIMATED COMPLETION PERIOD 270 Days		
>	WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN? YES YES Yes / No		
	ADVERTISEMENT:		
	(i) PPRA Website TS461054E, Dated : 30-09-2021 Yes / Ne (Federal Agencies) (If yes give date and PPRA's tender number)		
	(ii) News Papers: Yes / No		
	1. Daily Times – 30-09-2021 2. Daily Ausaf – 30-09-2021		
	00-00-2021		
	TENDER OPENED ON (DATE & TIME) 21-10-2021, 11:30:00AM (Technical)		
,	NATURE OF PURCHASE International Local / International		
P			
\triangleright	EXTENSION IN DUE DATE (If any) No Yes / No		

>	NUMBER OF TENDER DOCUMENTS SOLD_04 nos(Attach list of Buyers)	
A	WHETHER QUALIFICATION CRITERIA WAS INCLUDED IN BIDDING/TENDER DOCUMENTS Yes (If yes enclose a copy).	Yes / No
A	WHETHER BID EVALUATION CRITERIA WAS INCLUDED IN BIDDING/TENDER DOCUMENTS Yes (If yes enclose a copy).	Yes / No
	WHICH METHOD OF PROCUREMENT WAS USED: - (Tick one)	
	a) SINGLE-STAGE—ONE-ENVELOPE-PROCEDURE	X
	b) SINGLE STAGE - TWO ENVELOPE PROCEDURE	\checkmark
	c) TWO-STAGE-BIDDING-PROCEDURE.	X
	d) TWO-STAGE TWO-ENVELOPE-BIDDING-PROCEDURE.	X
	- PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREM ADOPTED WITH BRIEF REASONS (i.e EMERGENCY, CONTRACTING, NEGOTIATED TENDERING ETC.) NIL WHO IS THE APPROVING AUTHORITY CAA Board	
>	WHETHER APPROVAL OF COMPETENT AUTHORITY WAS C	
>	NUMBER OF BIDS RECEIVED 02 numbers	
>	WHETHER THE SUCCESSFUL BIDDER WAS LOWEST BIDDE Yes / No	R: <u>Yes</u>
>	WHETHER INTEGRITY PACT WAS SIGNEDYes	Yes / No

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA)

CONTRACT AWARD PROFORMA - II

To Be Filled And Uploaded on PPRA Website In Respect of Al
Public Contracts of Works, Services & Goods Worth Fifty
Million Rupees or More

- NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 02 numbers
- NAME AND ADDRESS OF THE SUCCESSFUL BIDDER
 - M/s ZIAFCO Engineers & Contractors ZIAFCO House, 96-C, 4th Floor, 11th Commercial Street, Phase – II, (Ext.) DHA – Karachi
- RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT (i.e. 1st, 2nd, 3rd EVALUATED BID).

1ST LOWEST EVALUATED BID

- NEED ANALYSIS (Why the procurement was necessary?) The existing escalators have over-lived their useful life, round the clock running of these escalators and at a very heavily used environment, the replacement of the same is indispensible need to be done urgently to facilitate the passengers, concessionaries and general public.
- IN CASE EXTENSION WAS MADE IN RESPONSE TIME, WHAT WERE THE REASONS (Briefly describe) Not Applicable

>	WHETHER NAMES OF THE BIDDERS AND THEIR PRICES V	VERE READ
	OUT AT THE TIME OF OPENING OF BIDS Yes	Yes / No
>	DATE OF CONTRACT SIGNING1st February 2022 (Attach a copy of agreement)	
>	CONTRACT AWARD PRICE Rs. 973,000,00/-	
	WHETHER COPY OF EVALUATION REPORT GIVEN TO ALL BIDDERSYes_	
>	(Attach copy of the bid evaluation report) ANY COMPLAINTS RECEIVED No (If yes result thereof)	Yes / N
>	ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE/DOCUMENTS No (If yes give details)	Yes / No
>	DEVIATION FROM QUALIFICATION CRITERIA No (If yes give details)	Yes / No
>	SPECIAL CONDITIONS, IF Any (Give Brief Description)	
[F.No.	2/1/2008PPRA-RA.III]	

LIST OF TENDER DOCUMENTS BUYERS

1/4	M/s ZIAFCO Engineers & Contractors
2/4	M/s Islamabad Industrial & Trading Corporation
3/4	M/s SAASA Corporation (Pvt.) Ltd.
4/4	M/s Merin (Pvt.) Ltd.

CIVIL AVIATION AUTHORITY JINNAH INTERNATIONAL AIRPORT (MECHANICAL SECTION)

PPRA INSTRUCTIONS

EVALUATION/SCRUTINY REPORT (As per rule 35 of public procurement rules, 2004)

1.	Name of Procuring Agency	Pakistan Civil Aviation Authority
2.	Method of Procurement Single S	Stage Two envelope
3.	Title of Procurement	REPLACEMENT OF ESCALATOR IN LOUNGES AT
		JIAP
		(S.H.): Replacement of existing old escalator nos. 17, 18, 19
		& 20 with new escalators installed in concourse hall of JIAP
4.	Tender Inquiry No.	<u>8526</u>
5.	PPRA Ref. no. (TSE)	TS461054E
6.	Date & Time of Bid Closing	<u>21-10-2021</u> <u>11:00:00AM</u>
7.	Date & Time of Bid Opening	21-10-2021 11:30:00AM (Technical)
8.	Date & Time of Bid Opening	17-11-2021 11:30:00AM (Financial)
8.	No. of Bid Received	02 bids received back out of 04 tenders sold are opened.
		The same was technically responsive and hence qualified,
9.		Criteria for Bid Evaluation Lowest Cost & fulfillment of the
		predefined criteria duly published in press publication & uploaded
		Tender Notice, RFP, on PPRA & PCAA websites
10.	Details of Bid(s) Evaluation	<u>As Under</u>

Name of	e of Marks		Evaluated Cost	Rule/Regulation/SBD*/Policy/Basis for	
bidder	Technical (if applicable	Financial (if applicable)		Rejection / Acceptance as per Rule 35 of PP Rules, 2004.	
M/s ZIAFCO Enginaers & Contractors	70.348	N/A	Rs. 97300000/- (1st Lowest) (0.102% above the estimated cost, however, the quoted amount falls within the Admin Approval Cost (i. e. Rs 98000000/-)	Accepted / recommended as the firm has fulfilled the predefined criteria published in press publication & uploaded Tender	
M/s Islamabad Industrial & Trading Corporation	78.190	N/A	Rs. 112000000/- (2 nd Lowest) (15.226% above the estimated cost)	Notice, RFP, on PPRA & PCAA websites	

Lowest Evaluated Bidder:

M/s ZIAFCO Engineers & Contractors

The bid of M/s ZIAFCO Engineers & Contractors amounting to Rs. 97300000/-(i.e. 0.102%) above the estimated cost, however, the quoted amount falls within the Admin Approval Cost (i.e.

Rs. 98000000/- is financially and technically Acceptable and recommended for approval please.

Accounts Supervisor

walv

WAU - Civil & E/M - JIAP

Sr. John Diroctor (Mech) - JIAP

Joint Director (Legal) - JIAP

Sr. Joint Director (Finance) WAU - Civil & E/M - JIAP

CONTRACTORS

ISSUED TO M/S ZIAFCO ENGINEERS 9

CONTRACTORS



PAKISTAN CIVIL AVIATION AUTHORITY

REPLACEMENT OF EXISTING OLD ESCALATOR NOS. 17, 18, 19 & 20 INSTALLED IN CONCOURSE HALL OF JIAP

Senior Joint Brack or Ne (1) Anical)
Pakistan Civil Aviation Authority
Jinnah Int'l Airport Karachi.

(ars)

Joint Director Legal CIVII Aviation Authority JIAP, Kufachi 18

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REPLACEMENT OF EXISTING OLD ESCALATOR NOS. 17, 18, 19 & 20 WITH NEW ESCALATORS INSTALLED IN CONCOURSE HALL OF JIAP

DISCLAIMER

The information contained in this document or information provided subsequently to Bidder or applicants whether verbally or in documentary form by or on behalf of Pakistan Civil Aviation Authority (CAA) on the terms and conditions set out in this document and all other terms and conditions subject to which such information is provided.

This document shall not be considered as an agreement but an offer or invitation by Pakistan CAA to any parties other than the applicants who are qualified to submit the Proposals. The purpose of this document is to provide bidder with information to assist the formulation of their bidding proposals.

This document does not claim to contain all the information each Bidder may require. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this document and where necessary obtain independent advice.

Pakistan CAA may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP document.

The following document is enclosed as annexure to this document:-

- a) Technical Specifications Annex -A.
- b) Contract Documents Annex -B.
- c) Special Terms and Conditions Annex C.
- d) Bill of Quantities Annex D.
- e) HSE Manual Annex E.

CHECKLIST

The following items must be checked before the Proposal is submitted:-

- Envelope A "Technical Bid / Proposal".
- 2. Technical bid shall contain following documents:
 - va. Duly filled, signed & stamped Technical Specifications Annex -A.
 - √b. Duly signed & stamped Contract Documents Annex –B.
 - √c. Duly Signed & Stamped Special Terms and Conditions Annex C.
 - d. Duly Signed & Stamped HSE Manual Annex E.
 - e. Copy of Earnest Money / bid security by eliminating amount.
 - f. Requisite documents mentioned in detailed technical evaluation criteria.
 - .g. Product Brochures, certificates, technical literature to substantiate the technical compliance.
 - Earnest money /bid security for an amounting to Rs. 2000000/- in favour of Pakistan Civil
 Aviation Authority.
- 3. Envelope B "Financial Bid / Proposal".
- 4. Finance bid shall contain following documents:
 - a. Bill of Quantities Annex D.
- 5. Financial Proposals to be quoted in Pak Rupees (PKR).







A. DESCRIPTION:

A1. Pakistan Civil Aviation Authority (PCAA) invites single stage two envelops sealed bids for the work of replacement of existing old escalator nos. 17, 18, 19 & 20 with new escalators installed in concourse hall of JIAP. Firm / Contractor having a demonstrated experience and have successful proven track records in the field of such supply and installation / replacement may participate in the tender.

B. PURPOSE / SCOPE:

- B1. The purpose of the work is replacement of existing old escalator nos. 17, 18, 19 & 20 with new escalators installed in concourse hall of JIAP
- B2. Therefore, the said escalators manufacturer / or authorized dealer should meet the class, quality, workmanship, material, ergonomics and aesthetics suitable for replacement work at an international airport.
- B3. JIAP is operational round the year and moreover the airport is often used by national and international dignitaries. Every care shall be taken by bidder to quote the latest, most reliable and robust and state of-the-art escalators covering the broad specification provided with this document. The replacement process should not pose any operational difficulties or any other inconvenience to airport staff, passengers or visitors.
- B4. Initial survey of the site is the sole responsibility of contractor / firm for verifying all the drawing related issues.
- B5. Bidder should arrange the temporary Airport Entry Passes (AEP) from Airport Security Forces (ASF) for his manpower and equipment etc including all codal formalities.
- B6. Technical specification of escalators is attached at Annex A.

C. REQUISITE PROFESSIONAL EXPERIENCE:

- C1. Only those firms or organization can apply who have experience of provisioning and installation of escalators from internationally recognized manufacturer.
- C2. The firms / Organizations keen to work in the stated framework must be:
 - A registered entity under the laws of Pakistan
 - –b) Registered with Sales Tax and Income Tax Department.
 - Bidder shall be registered with Pakistan Engineering Council (PEC) under at least Category C-4 with specialization code ME-03.
- C3. Firms / Contractors shall have trained staff, resources and work plan for safe execution of job at international airport.
- C4. Firm / Contractor shall have strong efficiency & discipline mechanism and would be responsible for the conduct of their officials at JIAP Karachi.

D. FIRM / CONTRACTOR PROFILE, DETAIL OF EXPERTISE & CLIENT LIST:

- D1. Detailed Profile of the applicant Firm / Contractor identifying its business, office location(s), number of employees / professionals / members etc.
- D2. List of clients for supply of similar items (breakdown by the category of Government, Semi Autonomous, Autonomous, bodies/ organizations, corporation) with clear description of items provided to each client along with the time frame.
- D3. An affidavit that the applicant Firm / Contractor meets the eligibility criteria and has the requisite expertise and resources to give the required services.



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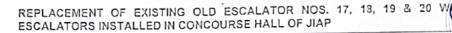
Affidavit / undertaking that the bidder has never been defaulter of CAA, any Government department, semi Government and Autonomous body or any bank nor black listed by any Govt. / Autonomous Agency.

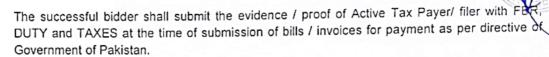
E. BIDDING PROCEDURE:

- E1. Tender will be opened in the public in the office of Sr. Joint Director Mechanical JIAP Karachi, Civil Aviation Authority at/about date and time mentioned in the advertisement.
- E2. Single stage two envelops bidding procedure shall be applicable as per PPRA 2004 Rule No. 36 (b).
- E3. The Technical (Envelope A) and Commercial (Envelope B) proposals should be in separate SEALED envelopes, thereafter, both envelops the (technical and commercial) be put in one envelop (second cover) duly sealed and signed addressed to Sr. Joint Director Mechanical JIAP Karachi mentioning name of work. Bids along with earnest money in shape of pay order in favour of PCAA must be dropped in Tender Box placed in the office of Sr. Joint Director Mechanical JIAP Karachi, within stipulated date and time.
- E4. Late submission of the tender shall not be accepted.
- E5. Bid should be typed / (legible) written both in figures and words.
- E6. The successful bidder shall furnish a performance Bond of 05% of bid amount in shape of Bank Guarantee / Pay order in favor of PCAA at the Time of signing of the contract for the satisfactory execution of contract.
- E7. CAA reserves the right to inspect the quoted/offered items/equipments before or after the confirmed order through any agency/person of its choice.
- E8. Only one bid as per technical specifications shall be acceptable. Alternate bid(s) shall not be acceptable.
- E9. Bidder shall quote firm and final prices. The bid prices should be inclusive of all applicable Government / Local Taxes and contract shall be executed with the technically qualified lowest evaluated bidder as per applicable schedule of stamp duties.
- E10. Bid must accompany technical literatures / brochures if any.
- E11. Conditional bid will not be acceptable and shall be rejected.
- E12. The Procuring Agency may reject all bids or proposals in accordance with PPRA Rules 2004 No.33.
- E13. The bid received without earnest money or short of amount specified will be rejected. Bid security only in shape of bank draft/pay order from scheduled bank in Pakistan with rating "AA" from PACRA / JCR IN FAVOUR OF PCAA shall be acceptable (subject to verification).
- E14. The earnest money/ bid security shall remain valid till the period of Bid Validity.
- E15. The earnest money / Bid Security shall be forfeited:
 - a. If a bidder breaches the I/T terms, or withdraws its bid during the period of bid validity, and / or involved in post-tendering manipulation at disadvantage of PCAA, except clarifications.
 - b. In case the successful bidder breaches the I/T terms and or fails to furnish Performance Bond as per clause E-6



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- E17. Arithmetical errors found (if any) shall be corrected as follows:
 - a. Where there is a discrepancy between amount in figures and words, the amount in words will prevail.
 - b. Where there is a discrepancy between the unit price and the total amount derived from the multiplication of the unit price and the quantity, the unit price as quoted shall govern.
- E18. Firm / Contractor taking part in bid will clearly indicate the client / person from whom the verification can be undertaken. (If required at any stage).

F. EVALUATION CRITERIA:

E16.

F1. Preliminary Evaluation

- F1.1 The technical proposals will be reviewed for deviations, acceptance of terms and conditions, adherence to scope of work, formats required, etc.,
- F1.2 In case of non-compliance on any of the above, bids will be considered as technically non-responsive.
- F1.3 If considered necessary, the participating firms / organizations may be asked for a presentation, on their profile, clients and the scope of services that have been or are being provided to clients before finalizing technical evaluation.

F2. Technical Evaluation

The quoted system equipments and components will be examined for compliance with technical specification and the bidder's capacity / qualification shall be evaluated as per technical criteria as provided below. Bidders are required to provide all the technical literatures and product brochures with technical bids in order to minimize clarifications and other correspondence for product/feature confirmations.

F2.1 Detailed Technical Evaluation Criteria

F2.1-1 Technical Evaluation would be conducted for parameters as shown in the table below:

s. #	Evaluation Parameters	Evaluation Parameters Required Supporting Document		
1.	Bidder must be a Escalators manufacturer (OEM) or OEM's authorized agent / partner for Pakistan.	Valid authorization certificate of OEM in case of Agent/Dealer/Partner/partnership certificate for Pakistan as evidence of being an authorized partner.	20	
2.	Applicant Firm / Contractor profiles and No. of associates/employees.	Please attach copy of required list	20	
3.	The offered brand of escalators should have installed population in Pakistan.	Attach list of purchase orders with client name, project, number of escalators, installation date.	30,	
4.	Technical Strength of at least one (01) OEM Certified / Trained Engineer	Please attach copies of OEM certificate with Technicians / Engineers profiles	05	
5.	Financial status of the firm duly supported Annual Audited report.	Copies of Audited Financial Statement are required for last three years i.e. 2018-19, 2019-20 & 2020-21.	25	
	Total Points 1			









REPLACEMENT OF EXISTING OLD ESCALATOR NOS. 17, 18,

ESCALATORS INSTALLED IN CONCOURSE HALL OF JIAP



F.2.1.2 Total Marks

The firms achieving 70% or more score in technical evaluation would be considered as technically accepted.

Compliance to Technical Specifications F2.2

The bidder is required to provide technical compliance sheet confirming the compliance to required technical specifications provided at Annex-A. Non-compliance to any term / clause of the technical specification will constitute grounds for rejection of the technical bid.

F3. Financial Proposal

- Financial Proposals of only such firms will be considered whose offers have been declared technically qualified. The cost indicated in the financial proposal shall be deemed as final.
- F3.2 Financial proposal will be un-conditional, failing which the bid shall be rejected.

G. CLARIFICATION

- G1.1 During the examination, evaluation and comparison of the bids, CAA at its discretion may ask the bidder for clarifications of its bid.
- G1.2 The request for clarification and the response shall be in writing/email. However, no change in the price or substance of the bid shall be sought, offered or permitted after bid submission.





DETAILED TECHNICAL EVALUATION CRITERIA

Sr.	Fred Care	Required Supporting	Marks	Marking Criteria
No.	Evaluation Parameters	Document		
1.	Bidders must be an Escalators manufacturer (OEM) or OEM's authorized agent / partner for Pakistan.	Valid authorization certificate of OEM in case of Agent/Dealer/Partner/partnership certificate for Pakistan as evidence of being an authorized partner.	20	 5 marks will be given, if the bidder produced the valid authorization certificate from OEM. 7 Marks will be given, if the contractor is authorized dealer of offered product manufacturer for at-least last 5 years. For less than 5 years of authorized agent as of at the time of opening of the technical bid. 7 x (A/5) For more than 5 years and less than 10 years, being the authorized dealer. 7+ (A/10) x 8 A = No of years being the authorized dealer Full Marks are given in case of 10 years of being the authorize dealer of OEM.
2.	Applicant Firm / Contractor profiles and No. of associates / employees.	Please attach copy of required list	20	 5 Marks will be given if complete descriptive profile showing different expertise levels with hierarchy of different offices is provided. 2 Mark will be given for each Engineer (registered with PEC). Maximum 10 marks will be given if 5 Engineers are available. (registered with PEC) 1 Mark will be given for each Associate Engineers (DAE). Maximum 5 marks will be given if 5 Associate Engineers are available
3.	The offered brand of escalators should have installed population in Pakistan.	Attach list of purchase orders with client name, project, number of escalators, installation date.	30	 If the contractor has completed / installed 300 or less units following formula will be used. > 15 x (A/300) For more than 300 following formula will be used. > 15+1/20 (A-300) Maximum marks will be given for 600 units.

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				→ A = Total number of escalators installed in Pakistana
9	Technical Strength of at least one (01) GEM Certified / Trained Engineer	Please attach copies of OEM certificate / Engineers profiles	05	 05 marks will be given it proof of OEM certificate of at-least 01 trained engineer is provided.
Fina of ti	Financial status of the firm duly supported Annual Audited report.	Copies of Audited Financial Statement are required for last three years i.e., 2018-19, 2019-20 & 2020-21.	25	 Full marks if average annual turnover of financial years is PKR 300 million or above. For average annual turnover of less than PKR 300 million, marks awarded as per following formula: (A / 300) x 25 Where 'A' is average annual turnover. No marks if annual turnover is less than PKR 150 million.
		Total Points	100	





Annex - A

TECHNICAL SPECIFICATIONS

(FOR REQUIRED ESCALATOR NOS.17, 18, 19 & 20)

GENERAL DESCRIPTION

Type: Passengers / Public (completely outdoor unit)

Vertical / Floor Height: 6 meter Inclination Angle: 30 Degree

Power Source: 380 V-415 Volt, 3 phase 50Hz

Operation: Key Switch Reversible operation (Dual direction)

Step Speed: 0.5 m/sec Step Width: 1000 mm

Demarcation Lines on steps: Painted in yellow color on tread board of steps for

passengers to distinguished separation between adjacent

steps.

Material of Steps: Aluminum

Material of Combs: Aluminum

No. of flat Steps: 3 steps at top & 3 steps at bottom

Vertical Rise / Floor height: 6000 mm Control: PLC with fault finder device

Drive Control: Variable Drive (VVVF) with fault finder device (built-in / plug in type)

Handrail Color: Black

Handrail Guide: Stainless steel (304 or better)

Deck & Skirt: Hairline 304 stainless steel (Non Magnetic)

Auto Start Sensing & display unit: Photo sensors in post pole and direction arrow with

stop bar at top & bottom entry points before landing

pads.

Balustrade: Transparent Tempered Glass

Exterior cladding: In mild steel (imported) finished on all three sides & painted in off

white color.

TECHNICAL / SAFETY FEATURES REQUIRED

(1) Handrail Guard safety device (2) Broken Drive Chain safety device (3) Skirt safety sensors (4) Starting dual direction key switch & emergency stop buttons (5) Pit disconnect switches (6) Broken step chain (link) safety device (7) Step missing sensor (8) electro magnetic brake (9) Over / under speed device (10) Control Station (11) Under step lighting (12) Phase sequence / absence sensing device (13) Floor plate switches (14) Comb plate switches (15) Step up thrust switch (16) Handrail speed monitoring device (17) Hold Handrail Safety Signs (18) Auxiliary Brake (19) Handrail belt broken safety device (20) Over load safety & all other safeties being offered in commercial standard product (21) Auto Lubrication



ESCLATOR SAFETY DEVICES

Handrail Guard Switches

A Switch is located at each handrail guard top & bottom to stop the escalator if a foreign object becomes wedged at the guard.

b) Broken Drive Chain & Step Chain (Link) Switch

One broken drive chain switch furnished at upper truss, if the drive chain breaks, the switch will activate and the brake will stop & hold the escalator immediately.

c) Skirt Switches

Four switches shall be provided, two at the top & two at the bottom behind the skirt panels to activate automatically to stop the escalator in the event an object is caught between the step & the skirt panel.

d) Starting Switch & Emergency Stop Button

A key switch shall be located at top & bottom right hand skirt to start the escalator in the up or down direction along with three keys of each switch. Emergency stop buttons shall be provided for stopping the escalator immediately in case of an emergency at top & bottom.

e) Pit Disconnect Switch

This switch shall be located at the bottom truss of escalator with provisioning of on/off position of stop or prevent the escalator from starting during maintenance service.

f) Broken Step Switches

Four switches at the top & bottom truss shall be provided on the escalator to sense a broken step, if the broken step is sensed by any of these switches, the safety circuit shall be interrupted and the brakes shall be applied.

g) Over & Under Speed Device

A solid state over speed / under speed control device shall be incorporated in escalator the escalators for maintaining the speed of the escalators within predetermined limits. Should the escalator slow down or over speed more-than 20% of the rated speed, power shall be cutoff & the brake shall be applied.

h) Under Step Lighting

Two green / blue lights shall be located at top and bottom ends of the escalators beneath the steps to emit light between steps for passengers safe riding and landing.

i) Step Demarcation Lines

Painted in yellow shall be provided at three sides of each step tread board for passengers to distinguished separation between adjacent steps.

j) Comb Plates Switch

A switch shall be provided at the top & bottom of escalator which stops the escalator if a foreign object is wedged between steps & comb fingers or if the comb plate is lifted.

k) Hold Handrail Signs

Caution signs shall be provided at the top & bottom landing of each escalator readily visible to boarding passengers. The signs shall includes following text "caution" on bold letters "passenger only", "Attend children" "Avoid sides" "No bare feet".

I. Brakes

Designed to stop the

escalator at design load without shock/jerk and sufficiently powerful to hold the step of escalator with normal amount of counter balancing.

m. Control System

PLC controller with fault finder built in diagnostic system or separate along with electro-magnetic operating power control circuit to operate the driving unit safety circuit for stop escalator in case of any abnormality

GENERAL SPECIFICATIONS

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QUALITY STANDARD

The following list of Escalators manufacturers shall only service as guideline with regard to the expected product standard and to indicate the maker's experience in the field of designing, fabricating, installing and maintaining the said equipment..

- A. Schindler
- B. KONE
- C. SIGMA
- D. Hyundai
- E. Mitsubishi
- F. Thyssen Krupp

2. INSTALLATION OF NEW ESCALATOR:

The escalator shall be installed by the contractor in existing pit of Escalator No.17, 18, 19 & 20 situated at concourse hall of JIAP.

3. CODE OF STANDARDS

Standards and codes which are generally applicable to the work are listed hereunder.

ANSI-ASME - A17.1 AMERICAN NATIONAL STANDARD

"Safety codes for Elevators & Escalators"

BS - EN115 - 1: 208 + AI: 2010 Safety of escalators & moving walkways construction

& installation

ISO / DIS 25745-1 The international standards is in response to the rapid increase in the

consumption of energy on a worldwide basis.

CIBSE Guide D: Transportation systems in buildings 2015

The above summary of standards is by no means intended to be complete, but has been merely prepared to establish the level of standards expected. Furthermore it must be understood that the latest current applicable standards, specifications or codes must be complied with.

4. OPERATION, MAINTENANCE & SPARE PARTS MANUALS:

The contractor shall provide two sets of operations, maintenance and spare parts manuals in English language. (Photo copy not accepted).

5. TRAINING:

Operation and maintenance training of escalator to at least five technical officials of PCAA shall be given at site by the contractor after commissioning of the equipment by authorized trainer of manufacturer / authorized agent. The certificate of the training shall be provided by the contractor.

6. MAINTENANCE DURING WARRANTY PERIOD:

All scheduled maintenance in accordance with manufacturer's recommendations and breakdown maintenance (if any) shall be carried out by trained engineers / technicians of the local authorized agent of the OEM and (01) skilled technician shall be deployed at location / site at-least for a period of one month after date of commissioning of the escalator during first month of warranty period.



7. SPARES:

The contractor shall provide following spares at the time of work completion other than proponents will utilize during warranty period as mentioned below.

1) One set of all type of controls & inverter PCB as installed in control panel of Escalator

2) Steps equipped with rollers Qty-10 Nos.

3) Complete sets of Aluminum comb plates as installed at top / bottom end Qty-116 sets

4) Newel chains Qty-16 Nos.

5) Dual direction Key Switches Qty-02 Nos. (03 Nos. keys with each key Switch)

6) Step chain rollers Qty-50 Nos.

7) Handrail Driving unit chain Qty-04.

8. TOOLS:

Contractor shall provide special tools required for calibration setting / trouble shooting of Control panel/ electrical(i. e. laptop with data software) digital & analog multi-meter (made in Japan) and tools required for carry out the mechanical portion maintenance of the escalators.

9. YEAR OF EQUIPMENT MANUFACTURING:

The year of manufacturing of escalators shall be 2021-22.





