

**Tender Document for
Procurement of the Security Screening
Equipment at MIA
(RFQ-151)**

Tender Time table

Description	Date	Remark
Open Tender Notice	23 April 2013	
Deadline of Request for Site Visit: Bidder shall submit the name list and clear passport/ID copies of the delegates for application for site visit * (Max. 3 persons for each bidder's submission)	2 May 2013	Late submission will <u>NOT</u> be considered
Site Visit Date and Meeting Point: <i>Airport Information Counter, Departure Level, Passenger Terminal Building, Macau International Airport</i>	9 May 2013 15:00	Late attendance will <u>NOT</u> be considered
Deadline for Request for Clarification **	20 May 2013	Late submission will <u>NOT</u> be considered
Deadline for Proposal Submission	10 June 2013 12:00(noon)	Late submission will <u>NOT</u> be considered

* Submission of name list and I.D. copies should be submitted with cover letter via facsimile to (853) 28785465.

** Request for Clarification should be submitted with cover letter via facsimile to (853) 28785465. Verbal enquiry will NOT be considered.

For any enquiry regarding the tendering procedure, please reach our Infrastructure Development Department at 85988871.

IMPORTANT REMINDER

1. Tender Package Requirement:

<p>The outer envelope shall be opaque, sealed with adhesive tape and labeled as follows:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"><p>Mr. Deng Jun – Chairman of the Executive Committee Macau International Airport Co., Ltd (CAM) CAM OFFICE BUILDING, 4# ANDAR AV. WAI LONG, TAIPA, MACAU</p><p><i>[PROJECT TITLE]</i> "TO BE OPENED BY AUTHORIZED PERSONNEL ONLY"</p></div> <p>Enclosed in the sealed outer envelope shall be inner envelopes (A) and (B): (A) Independent Sealed “Technical” Envelope (opaque and sealed with adhesive tape); (B) Independent Sealed “Commercial” Envelope (opaque and sealed with adhesive tape).</p>
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(A) “Technical” Envelope:
<ul style="list-style-type: none">a) The “Technical” Envelope shall include:<ul style="list-style-type: none">i. Technical Proposal: ONE original and FOUR hard copies;ii. ONE CD with a PDF soft copy which ONLY includes technical information;b) DO NOT include any pricing or other related information;c) Each page of the original document shall be initialed by the legal representative(s) of the tenderer/bidder or the person(s) duly authorized by a written power of attorney included in the tender submission to bind the tenderer/bidder;d) Clearly mark “Technical” and the <i>[Project Title]</i> on the envelope;e) This envelope must be sealed with adhesive tape.

(B) “Commercial” Envelope:
<ul style="list-style-type: none">a) The “Commercial” Envelope shall include:<ul style="list-style-type: none">i. Commercial Proposal: ONE original and FOUR hard copies;ii. ONE CD with a PDF soft copy which ONLY includes commercial information;iii. A bid security issued by a reputable bank, conforming to the requirements of the tender documents (cash or cheques are not accepted);iv. Completed Bid Form signed by the legal representative(s) of the tenderer/bidder or the person(s) duly authorized by a written power of attorney included in the tender submission to bind the tenderer/bidder, and stamped with the company stamp;b) Each page of the original document shall be initialed by the legal representative(s) of the tenderer/bidder or the person(s) duly authorized by a written power of attorney included in the tender submission to bind the tenderer/bidder;c) Clearly mark “Commercial” and the <i>[Project Title]</i> on the envelope;d) This envelope must be sealed with adhesive tape.

2. If the tender proposal is not packaged or marked as required (e.g. the technical part and the commercial part are found commingled in the same envelope or saved on the same CD, whether partially or in whole), the tender or bid may be rejected.
3. Clearly mark the cover of each document “ORIGINAL” or “COPY” as appropriate. In the event of any discrepancy between them, the original shall govern.
4. All tenderers and bidders must submit the documents with the contents and in the quantity required; otherwise, the tender or bid may be rejected.
5. Submission of documents by the tenderer or bidder must strictly comply with the timetable as specified in the relevant tender document. **Any late submission will NOT be accepted.**
6. All tenderers or bidders must strictly comply with all the stipulations, terms and conditions in the relevant tender document. Any incompliance may result in the tender or bid being rejected. This “Reminder” or its lack of mention of any stipulations, terms or conditions shall in no way excuse any such incompliance.
7. In case of any discrepancy between the texts in different languages of the tender document, the English version shall prevail.
8. Should there be any disputes relating to the tender document or the tender procedures or process, the interpretation and decision of the Macau International Airport Company Limited (CAM) shall be final and conclusive.

重要提示

1. 標書包裝要求:

外層信封須為不透光，用膠紙密封及註明:

Mr. Deng Jun – Chairman of the Executive Committee
Macau International Airport Co., Ltd (CAM)
CAM OFFICE BUILDING, 4# ANDAR AV. WAI LONG,
TAIPA, MACAU

[項目英文名稱]

"TO BE OPENED BY AUTHORIZED PERSONNEL ONLY"

密封的外層信封內必須包含兩個獨立密封信封(A)及(B):

(A) 技術部份獨立密封信封(用膠紙密封的不透光信封);

(B) 商業部份獨立密封信封(用膠紙密封的不透光信封)。

(A) 技術部份獨立信封:	(B) 商業部份獨立信封:
<p>a) 技術部份信封內必須包括:</p> <ul style="list-style-type: none">i. 技術建議書:一份正本和四份副本;ii. 只包含技術建議書 PDF 電子副本之 CD 一張; <p>b) 切勿包含任何投標價格或相關內容;</p> <p>c) 所有正本文件須由投標公司的法定代表人，或基於附同在投標文件內遞交的授權書而獲得適當授權以約束投標公司之人，於每一頁簡簽;</p> <p>d) 信封面清楚標明“Technical” (“技術部份”)之英文字樣及[項目名稱];</p> <p>e) 本信封必須用膠紙密封。</p>	<p>a) 商業部份信封內必須包括:</p> <ul style="list-style-type: none">i. 商業建議書:一份正本和四份副本;ii. 只包含商業建議書 PDF 電子副本之 CD 一張;iii. 符合招標文件規定，由信譽良好的銀行發出之投標擔保(現金及支票恕不接受);iv. 填妥之投標函表格(Bid Form)，並須由投標公司的法定代表人或基於附同在投標文件內遞交的授權書而獲得適當授權以約束投標公司之人簽署，及加蓋公司印章; <p>b) 所有正本文件須由投標公司的法定代表人，或基於附同在投標文件內遞交的授權書而獲得適當授權以約束投標公司之人，於每一頁簡簽;</p> <p>c) 信封面清楚標明“Commercial” (“商業部份”)之英文字樣及[項目名稱];</p> <p>d) 本信封必須用膠紙密封。</p>

2. 若標書包裝或標示不符規定(例如技術部份和商業部份被發現全部或部份地混置於同一個信封或儲存在同一 CD 內)，投標書可被拒絕接納。
3. 每份文件之封面皆適當地清楚標明“ORIGINAL” (“正本”)或“COPY” (“副本”)之英文字樣。若正本與副本之間有任何差異，皆以正本之內容為準。
4. 所有投標者必須確保所提交的文件數量和內容正確。若發現提交的文件數量或內容不符規定，投標書可被拒絕接納。
5. 所有投標文件，必須嚴格遵守本招標文件規定的投標時間表提交。**任何逾時繳交之文件將不予接納。**
6. 所有投標者必須嚴格遵守招標文件中的全部規定、條款和條件，任何不符規定的情況皆有可能導致投標書被拒絕接納。本“提示”對任何該等規定、條款或條件之提及或不提及，均不能作為任何該等不符規定情況的辯解。
7. 若招標文件之不同語言版本之間出現任何差異，應以英文版本為準。
8. 關於招標文件及程序若有任何爭議，澳門國際機場專營股份有限公司保留一切解釋及決定權利。

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Section-1 Instruction to Bidders (ITB)

1. Introduction

1.1. The Employer, Macau International Airport Co., Ltd. ("CAM") intends to undertake a series of Procurement of the Security Screening Equipment at MIA.

Enquiries during office hours can be sent to:

Name: Macau International Airport Co., Ltd (CAM)

Address: CAM OFFICE BUILDING, 4# ANDAR AV. WAI LONG, TAIPA, MACAU

Tel: +853-8598 8871

Fax: +853-2878 5465

1.2. The scope of the project shall be specified in the Project Requirements; Bidder shall strictly follow the scope for this bid.

1.3. The Bidder shall take into account:

1.3.1. During the Project execution and completion, the Bidder is the sole party to guarantee the quality, safety and effective operation of all work completed and equipment installed.

1.3.2. All the work within Macau International Airport should strictly follow the Macau S.A.R. Laws as well as Rules and Regulations of Macau International Airport.

1.3.3. The procurement of insurances according to Macau S.A.R. Laws as well as Rules and Regulations of Macau International Airport; (refer to Terms and Conditions of Contract for details).

1.3.4. The claims and penalties of the project which shall be stated in the Contract.

2. Eligibility of Bidders

2.1. Eligible Bidders

- 1) This Invitation for Bids is open to all Contractors from within the Macau Special Administrative Region ("Macau S.A.R.") and all countries/areas which have regular trade relations with Macau S.A.R. (hereinafter called "the eligible source countries/areas"), except as provided hereinafter.

- 2) The Bidder itself (but not only its sub-contractor or partner (if any) which is not a bidder) shall have been engaged in related equipment production/sales and installation for more than five (5) years. The same type of product shall have actual successful application cases in large scale projects for more than three (3) years. The Bidder must provide written evidence and manufacturer certificates demonstrate it is manufacturer authorized company for selling, installation and maintenance of X-ray security screening machines, walkthrough and handheld metal detectors and explosive trace detectors.
 - 3) The Contractors may participate in the bids only if they are legally and financially autonomous. if they operate under relevant law, and if they are not a dependent agency of the Employer.
- 2.2. If the bidder constitutes an unincorporated joint venture or grouping of two or more persons/companies, these persons/companies must designate one of themselves as the leading member who shall have authority to bind the bidder and each of these persons/companies.
- 2.3. It is within the Employer's sole discretion to decide the eligibility of the bidder.

3. Eligible Goods and Services

- 3.1. All the on-site work shall be governed by Macau S.A.R. Laws as well as Rules and Regulations of Macau International Airport.
- 3.2. All goods and related services to be supplied under the contract shall have their origin in eligible source countries/areas, as defined in clause 2.1. above, and all expenditures made under the contract will be limited to such goods and services.

4. Cost of Bid

- 4.1. The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bid process.

5. Content of Tender Document

5.1. The goods, materials, works and services required, bidding procedures and contract terms are prescribed in the tender document. The tender document is written in English. The content of the tender document will be separated into eight sections as follows:

Section 1- Instruction to Bidders

Section 2- Terms and Conditions of Contract

Section 3- Attachments

Section 4- Work Schedule

Section 5 - Statement of Project requirements

Section 6- Bill of Quantities & Bidder provide technical information

Section 7- Replacement Information and Correspondence Location.

Section 8 – Site Rules

5.2. The Bidder is expected to examine all instructions, forms, terms and specifications in the tender document. Failure to furnish all information required by the tender document or submission of a bid not substantially responsive to the tender document in every respect will be at the Bidder's risk and may result in the rejection of its bid.

6. Clarification of Tender Document

6.1. A prospective Bidder requiring any clarification of the tender document may notify the Employer in writing. The Employer, if considering it appropriate, will respond in writing to a request for clarification of the tender document which the Employer receives on or before the deadline as described in the aforementioned Tender Timetable. The Employer's response (without identifying the source of inquiry) will be published on the MIA website (www.macau-airport.com and www.camacau.com).

7. Amendment of Tender Document

- 7.1. Prior to the deadline for submission of bids, the Employer, for any reason, whether at its own initiative or in response to a request for clarification by a prospective Bidder, may amend the tender document.
- 7.2. The amendments as are published from time to time on the MIA website (www.macau-airport.com and www.camacau.com).
- 7.3. will be binding on the bidders and form part of the tender document.
- 7.4. In order to afford prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Employer, at its discretion, may extend the deadline for the submission of bids.

8. Site Visit

- 8.1. During the tender period, Bidder can request for site visit of the installation areas as well as the construction or installation areas for understanding all the information needed for tender document.
- 8.2. The request shall be raised in writing on or before the deadline as described in the aforementioned Tender Timetable.
- 8.3. Bidder shall provide ID copy of the assigned personnel for the site visit together with the request.
- 8.4. Site visit will take place on the date and at the time as described in the aforementioned Tender Timetable. Meeting Point shall be at Airport Information Counter, Departure Level, Passenger Terminal Building, Macau International Airport.

9. Project Team Structure and Schedule

- 9.1. Bidder shall provide the Project team structure with reporting hierarchy, sole responsible personnel and contact person in the bid.
- 9.2. If subcontractor(s) involved, Bidder shall identify clearly which areas the subcontractor(s) is responsible for and contact point.

9.3. Bidder shall provide project schedule together with the bid document expressed in Gantt chart format with start, end, and duration of the tasks, milestones and risk assessment.

10. Technical submission

10.1. Bidder shall provide all related technical specification, certificates, standards, guarantee, work program, catalogs, specified in the Project Requirement in the tender document.

11. Language of Bid

11.1. The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer shall be written in English.

12. Documents Comprising the Bid

Please see especially ITB Clause 21 below.

13. Compilation of Bid

13.1. The Bidder shall complete the Bid Form and other stipulated contents furnished in the tender document.

14. Bid Prices

14.1. The Bidder shall indicate on the appropriate Bill of Quantities and Schedules the unit prices, brand, model and specification, quantity and total bid price etc. (where applicable) of the machine, equipment, material, goods or services, it proposes to supply under the contract. The total bid price shall not include any items beyond the requirement of the tender document; otherwise, the offer on such items will not be deducted during the evaluation (but such items may still be excluded with the corresponding prices deducted from the total price at the Employer's sole discretion in case of the award of contract). The total bid price shall not omit any items required in the tender document. The value of any items without priced in the proposed BQ shall be deemed to be included in the total bid price. The

employer may at its sole discretion request the bidder to confirm in writing to that effect. If no such confirmation is given as required, the bid may be rejected.

15. Bid Currencies

15.1. The prices shall be quoted in Macau Patacas (MOP) for goods and services that the Bidder will supply, unless specified or permitted otherwise.

16. Documents Establishing Bidder's Eligibility and Qualifications

16.1. The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted. If the Bidder is a Joint Venture or other unincorporated grouping of two or more persons/companies, the respective Qualification Documents of each of these persons/companies together with the Joint Venture Agreement (or the agreement for the grouping) shall be submitted while these persons/companies shall indicate the leading member. Otherwise, the bid will be rejected.

16.2. The documentary evidence of the Bidder's eligibility to bid shall establish that the Bidder, at the time of submission of its bid, fulfills in all respects the requirements as defined under ITB Clause 2.

16.3. The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish:

- 1) the Bidder must be duly authorized by the goods' Manufacturer or Producer to supply, install and maintenance the goods in this bidding project;
- 2) that, the Bidder has the financial, technical capability to perform the contract;
- 3) that, the Bidder meets the qualification criteria listed in the project requirement.

16.4. The Bidder shall also furnish, as part of its bid:

- 1) the bank reference letter issued within three months prior to the deadline for the submission of bids in original or its copy;
- 2) copies of valid business registration;

- 3) other documentary evidence of the Bidder's qualifications required in the tender document.

17. Documents Establishing provision' Eligibility and Conformity to Tender Document

17.1. The Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the tender document of all works, materials, goods and services which the Bidder proposes to supply under the contract.

17.2. The documentary evidence of conformity of the provision to the tender document may be in the form of literature, drawings and data, and shall consist of:

- 1) a detailed description of the essential technical and performance characteristics of the equipment, goods and services.
- 2) a list, giving full particulars, including all available equipment, components, spare parts, materials, special tools, service, schedule, document etc., necessary for the proper delivery and continuing functioning of the goods, following commencement of the use of the goods by the Employer; and.
- 3) an item-by-item commentary on the Project Requirement of the tender document demonstrating substantial responsiveness of the works, materials, goods and services to those specifications, and a statement of deviations and exceptions to the provisions of the Technical Specification/project requirements. Particularly, to those specifications with specific parameters, the bidder shall furnish specific parameter value of offered good, material, services and works; and.
- 4) a list of support offered during the maintenance period.

17.3. For purposes of the commentary to be furnished pursuant to ITB Clause 17.2. above, the Bidder shall note that standards for workmanship, material and equipment, as well as references to brand names or catalogue numbers designated in the Project Requirement of the tender document, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand

names, and/or catalogue numbers in its bid, provided that the substitutions ensure substantial equivalence to those designated in the tender document.

18. Bid Security

18.1. The Bidder shall furnish, as part of its bid, a bid security in the amount of Patacas Two Hundred Thousand (MOP\$200,000.00).

18.2. The bid security is required to protect the Employer against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 18.5.

18.3. The bid security shall be denominated in the currency of the bid or in another currency acceptable to the Employer, and shall be an irrevocable bank guarantee issued by a reputable bank located in MACAU S.A.R. or abroad, in the form provided in the tender document and valid until thirty (30) days beyond the validity of the bid.

18.4. Any bid not secured in accordance with ITB Clauses 18.1 to 18.3 will be rejected as substantially non-responsive, pursuant to ITB Clause 26.

18.5. The bid security may be forfeited:

- 1) if a Bidder withdraws or unilaterally modifies its bid during the period of bid validity specified in the tender document; or
- 2) if the successful Bidder fails to sign the Contract Form in accordance with ITB Clause 34; or
- 3) if the successful Bidder fails to furnish performance security in accordance with ITB Clause 35.

19. Period of Validity of Bids

19.1. Bids shall remain valid for the period of one hundred and twenty (120) calendar days from the deadline for the submission of bids. A bid valid for a shorter period shall be rejected as substantially non-responsive.

19.2. In exceptional circumstances, prior to the expiry of the original bid validity period, the Employer may request the Bidder to extend the period of validity. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without its bid security forfeited. A Bidder agreeing to the request will not

be required nor permitted to modify its bid, but will be required to extend the validity of its Bid Security correspondingly. The provisions of ITB Clause 18 regarding forfeiture of Bid Security shall continue to apply during the extended period of bid validity.

20. Format and Signing of Bids

- 20.1. The Bidder shall submit one (1) original and four (4) copies (and one softcopy in PDF format) of the bid, clearly marking each "ORIGINAL" or "COPY" of bid, as appropriate. In the event of any discrepancy between them, the original shall govern.
- 20.2. The original bid shall be typed or written in indelible ink and shall be signed by the legal representative of the Bidder or a person or persons duly authorized to bind the Bidder to the contract. The authorization shall be indicated by written power of attorney accompanying the bid. All pages of the bid shall be initialed by the person or persons signing the bid. The copies of bid can be the photocopies of the original bid.
- 20.3. Any interlineation, erasures or overwriting shall be valid only if they are initialed by the person or persons signing the bid.
- 20.4. If the bidder constitutes an unincorporated joint venture or grouping of two or more persons/companies, the bid shall be signed by the legal representative of, or such person or persons as duly authorized by a written power of attorney enclosed in the bid to bind, each and every member of the joint venture/grouping, and the paragraphs 20.2 and 20.3 of this Clause are to be understood accordingly.

21. Sealing and Marking of Bids

- 21.1. The Bidder shall separate the Commercial part (the original and the hard and soft copies) from the Technical part of its proposal. The Technical part and the Commercial part shall be put into different opaque envelopes, sealed with adhesive tape and clearly marked "Technical" and "Commercial" respectively as appropriate. These (inner) envelopes shall then be put into an outer opaque envelope sealed with adhesive tape.

- (a) The “Commercial” envelope shall include the original and the hard and soft copies of the following (pricing information must be put in the opaque sealed “Commercial” envelope only):
 - i) The Bid Form (duly completed)
 - ii) The Bid Security;
 - iii) Bill of Quantities duly completed;
 - iv) Deviation from the commercial terms in the tender document, if any.
- (b) The “Technical” envelope shall include the original and the hard and soft copies of the following (no pricing information can be included in the “Technical” envelope):
 - i) Replies to the Tender Technical Schedules (if any);
 - ii) Company profile;
 - iii) Design according to Clause 10 above;
 - iv) Technical proposal / methodology / work plan;
 - v) Documentary evidence according to Clauses 16 and 17 above;
 - vi) Programme / Schedule;
 - vii) Safety / Quality procedures;
 - viii) Project team structure;
 - ix) Job references;
 - x) Any other ‘technical’ information.

21.2. The inner and outer envelopes shall:

- 1) be addressed to the address:
 - Name: Macau International Airport Co., Ltd (CAM)
 - Address: CAM OFFICE BUILDING, 4# ANDAR, AV. WAI LONG, TAIPA, MACAU
- 2) bear the Project name, “Procurement of the Security Screening Equipment at MIA” and the words "TO BE OPENED BY AUTHORIZED PERSONNEL ONLY".

21.3. The inner envelopes shall also indicate the name and address of the Bidder.

21.4. If the outer envelope is not sealed and marked as required by ITB Clauses 21.1 and 21.2, the Employer will assume no responsibility for the bid's misplacement or premature opening.

21.5. If any pricing information (whether in hard or soft copies) in the bidder's proposal is not put in the opaque Commercial envelope sealed with adhesive tape and clearly marked according to ITB Clause 21.1 above, the bid may be considered substantially non-responsive and may be rejected by the tender opening committee or the Bid Evaluation Committee

22. Deadline for Submission of Bids

22.1. Bids must be received by the Employer at the address specified under ITB Clause 21.2 no later than the deadline as described in the aforementioned Tender Timetable. (Macau Time).

22.2. The Employer may, at its discretion, extend this deadline for the submission of bids by amending the tender document in accordance with ITB Clause 7, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

22.3. In the case that Typhoon Warning Signal No.8 or above or Rainstorm Signal is hoisted and/or issued within two hours before the deadline for the submission of bids, the deadline shall automatically be postponed to the same time of the immediately succeeding business day.

23. Late Bids

23.1. Any bid received by the Employer after the deadline for submission of bids, pursuant to ITB Clause 22, will be rejected.

24. Modification and Withdrawal of Bids

24.1. The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification from the Bidder, including substitution or withdrawal of the bids, is received by the Employer prior to the deadline for submission of bids.

24.2. The Bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions of ITB Clause 21.

24.3. No bid may be modified after the deadline for submission of bids.

24.4. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the forfeiture of the bid security, pursuant to ITB Clause 18.5.

25. Bid Evaluation Committee

25.1. The bid evaluation will be taken charge by the Bid Evaluation Committee appointed by the Employer.

25.2. During evaluation of the bids, the Bid Evaluation Committee may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered or permitted.

26. Preliminary Examination

26.1. The Bid Evaluation Committee will examine the bids to determine whether they are complete, whether the bids are generally in order, whether required securities have been furnished, whether the documents have been properly signed, and whether any computational errors have been made.

26.2. If there is a discrepancy between the prices in the tender proposal, the Employer/the Bid Evaluation Committee may decide at its sole discretion which price(s) to prevail and/or to correct the price(s) as it thinks fit. If there is a discrepancy between words and figures, the amount in words will prevail. If the bidder does not accept the decision by the Employer/the Bid Evaluation Committee or its correction of the errors, the bid will be rejected.

26.3. The Bid Evaluation Committee may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation.

26.4. The Bid Evaluation Committee will determine the substantial responsiveness of each bid to the tender document. For purposes of these Clauses, a substantially responsive bid is one which conforms to the terms and conditions of the tender document without material deviations. Deviation from, or objections or reservations to critical provisions, such as those concerning Bid Security,

Applicable Law, Taxes and Duties, will be deemed to be a material deviation. The Bid Evaluation Committee's determination of a bid's responsiveness is to be based on the true and correct contents of the bid itself without recourse to extrinsic evidence, unless the bid contains untrue and incorrect contents. If a bid is not substantially responsive, it will be rejected and may not subsequently be made responsive by the Bidder having corrected or withdrawn the non-conforming deviation or reservation.

26.5. Among others, the bid will be rejected as non-responsive, if it is found having any of the following:

- 1) The bid is not accompanied with a bid security, or, the submitted bid security is of lower amount than required, or of shorter validity than required, or not conforming to the requirements of tender document in its form or issuing bank.
- 2) The Bid Form or Qualification Documents are not submitted or not in compliance with the requirements of the tender document.
- 3) The bid has not been signed by the Bidder's Legal Representative, or by the person or persons with a Power of Attorney issued by the said Legal Representative.
- 4) The bid validity offered by the Bidder is shorter than that stipulated in the tender document
- 5) The bid does not meet, whether in technical or commercial aspects, other main clauses stipulated in the tender document.

27. Evaluation and Comparison of Bids

27.1. The Bid Evaluation Committee's evaluation of a bid will take into account, the following factors in accordance with the tender document:

I. Technical (40/100)

1) Company Capability & Past Performance (15%)

- i. Adequacy of company resources and committed work load;
- ii. Backup and support in local and region;

- iii. Experience in the industry, particularly in similar job reference; referee's view;
- iv. Other merits

2) Understanding of Requirements & Constraints (45%)

- i. Understanding of key issues, requirements, constraints and opportunities in the refinement of the project framework;
- ii. Appropriateness of programme logic/duration;
- iii. Appropriateness of the proposed methodology and work plan (content, duration, phasing, interrelations and milestones particularly tailor made to project condition) to address project conditions; demonstration of compatibility of the methodologies with the proposed work plan;
- iv. Compliance to requirement, achievement of the task objectives/deliverables within the timeframe;
- v. Other merits.

3) Experience and Structure of Proposed Project Team (30%)

- i. Responsibilities and degree of involvement of team members; organization chart to illustrate the structure of the work team and its interfacing with project stakeholders
- ii. Relevant professional expertise, experience, knowledge and qualifications of project team members, particularly in the field of X-ray security screening equipment procurement, installation and maintenance, locally, regionally or internationally
- iii. Adequacy of professional and technical manpower input
- iv. Other merits.

4) Quality of Submission (10%)

- i. Adequacy of the presented information
- ii. Conciseness and logical presentation of the submission
- iii. Other merits.

II. Commercial (12/100)

1) Commercial Vetting (100%)

- i. Adequate insurance and compliance to conditions of contract
- ii. Reasonableness of the price breakdown
- iii. Other merits.

III. Pricing (48/100)

28. Contacting the Employer

28.1. With exception for Clause 25.2, no Bidder shall contact the Employer and the Bid Evaluation Committee on any matter relating to its bid, from the deadline for submission of bids to the time the contract is awarded.

28.2. Any effort by a Bidder to influence the Employer and the Bid Evaluation Committee in their decisions on bid evaluation or contract award may result in the rejection of the Bidder's bid.

29. Award Criteria

29.1. Subject to ITB Clause 32, the Employer will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the highest-score bid through comprehensive evaluation method, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

30. Right to Vary Quantities at Time of Award

30.1. The Employer reserves the right at the time of contract award to increase or decrease, the quantity of works, materials, goods and services originally specified in the Project Requirements and BQ without any change in unit price or other terms and conditions.

31. Publication on Website

31.1. Announcement of this bidding notice will be publicized on www.macau-airport.com and www.camacau.com (hereinafter referred to as “the website”).

32. Right to Accept any Bid and to Reject any or All Bids

32.1. Bidders shall accept that it is the Employer's intention not to create any contractual relations in this invitation to bid until the award of the Contract pursuant to ITB Clause 33, and the Employer is not bound to accept the lowest or any bid it may receive and will not defray any costs incurred in bidding. The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at its own discretion.

33. Notification of Award

33.1. Once the successful Bidder has been determined, the Employer will issue a Notification of Award to the Successful Bidder.

33.2. The Notification of Award will constitute the formation of the Contract.

34. Signing of Contract Form

34.1. Within forty-five (45) days after the issuance of Notification of Award, written Contract Form shall be signed in accordance with the tender document and the bid of the successful bidder. The successful bidder shall not sign any agreements against the substantial content of the contract.

35. Performance Security

35.1. Within thirty (30) days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the Terms and Conditions of Contract in the tender document, in the Performance Security Form provided in the tender document, or in another form acceptable to the Employer.

35.2. Failure of the successful Bidder to comply with the requirement of ITB Clause 34 or ITB Clause 35.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Employer may make the award to another Bidder, or call for new bids.

Section-2 Terms and Conditions of Contract

1. Definitions

1.1. In this Contract, the following terms shall be interpreted as indicated:

- 1) "The Contract" means the agreement entered into between the Employer and Contractor, including the Contract Form, the Notification of Award, the Bid Form, these Terms and Conditions of Contract, the Bill of Quantities, the Project Requirements, the Drawings, the Project Schedule, the Instruction to Bidders, and the further documents (if any) which are listed in the Contract Form or in the Notification of Award.
- 2) "The Contract Price" means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations.
- 3) "Technical specification, catalogs" refers to an explicit set of project requirements to be satisfied the material, product, or service standard and performance.
- 4) "The Goods" means all of the equipment, machinery, and/or other materials which the Contractor is required to supply to the Employer under the Contract.
- 5) "Works" mean works and services to be carried out by the Contractor under the Contract.
- 6) "The Incidental Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Contractor covered under the Contract.
- 7) "TCC" means the Terms and Conditions of Contract contained in this section.
- 8) "The Employer" or "the Client" means the organization purchasing the Goods and Services.
- 9) "The Contractor" means the individual or firm supplying the Goods, Works and Services under this Contract.
- 10) "The Project Site" means the location(s) where the Goods, and material to be installed and operated.
- 11) "Day" means calendar day.

12) "Supervision" means the entity representing CAM in managing the project and shall include the Supervisor and Quality Controller and their successors and permitted assignees.

2. Application

2.1. These Terms and Conditions shall apply to the extent that they are not superseded by provisions of a higher rank in other parts of the Contract.

3. Standards

3.1. The works, materials, goods and services supplied under this Contract shall conform to the standards mentioned in the Project requirements, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.

3.2. All measurements shall be the measuring unit officially published by the government of the Macau S.A.R., unless otherwise specified in the Project Requirements.

4. Use of Contract Documents and Information

4.1. The Contractor shall not, without the Employer's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Employer in connection therewith, to any person other than a person employed by the Contractor in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such Performance.

4.2. The Contractor shall not, without the Employer's prior written consent, make use of any document or information enumerated in TCC Clause 4.1 except for purposes of performing the Contract.

4.3. Any document, other than the Contract itself, enumerated in TCC Clause 4.1 shall remain the property of the Employer and shall be returned (including all copies) to the Employer on completion of the Contractor's performance under the Contract if so required by the Employer.

5. Intellectual Property Rights

5.1. The Contractor shall indemnify the Employer against all third-party claims of infringement of patent, trademark, copyright or other intellectual property rights arising from use of the Design and Materials or any part thereof in the Macau S.A.R..

6. Performance Security

6.1. Within thirty (30) days of receipt of the notification of Contract award, the Contractor shall furnish to the Employer the performance security of ten percent (10%) of total Contract Price.

6.2. The proceeds of the performance security shall be payable to the Employer as compensation for any loss resulting from the Contractor's failure to complete its obligations under the Contract.

6.3. The performance security shall be denominated in the currency of the Contract, or in a currency acceptable to the Employer, and shall be in the form of an irrevocable bank guarantee issued by:

- (i) a reputable bank located in the Macau S.A.R., or,
- (ii) a reputable bank abroad acceptable to the Employer through a reputable Bank located in the Macau S.A.R.,

and in the form provided in the tender document or another form acceptable to the Employer.

6.4. The performance security will be discharged by the Employer and returned to the Contractor not later than thirty (30) days after the issue of the Final Acceptance Certificate upon the end of the Defects Liability Period (DLP) and the satisfactory

acceptance, completion and report of installation, equipment performance, defective rate and service performance as provided.

7. Technical Literature, technical specification and Project Other Materials

- 7.1. The Contractor shall provide reconfirmation of working program, delivery schedule, installation methods, technical literature, drawings, schematics, and standards, certificates to demonstrate the compliance of project requirement and fulfill all applicable regulations and laws after contract award to facilitate the replacement installation.
- 7.2. Upon receipt, the Employer shall notify any comments or, if the technical requirements, work schedule, delivery, installation methods of providing goods or services are not in accordance with the Project Requirement, Contract, shall reject it in regular meeting or by writing.
- 7.3. The Contractor shall promptly improve and coordinate with client to proper arrange and settle the comments on user, operator and taking these comments into account as necessary.

8. Inspections and Tests

- 8.1. The Employer or its representative shall have the right to inspect and/or to test the Goods and Materials and the Works carried out by the Contractor to confirm their conformity to the Contract specifications at no extra cost to the Employer.
- 8.2. Should any inspection or testing of Goods fail to conform to the Specifications, performance, the Employer may reject the Goods, and the Contractor shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Employer.
- 8.3. The Contractor shall have the manufacturer, before making delivery, carry out a precise and comprehensive inspection of the Goods regarding quality, specification, performance, quantity and weight and issue a quality certificate certifying that the Goods are in conformity with the stipulations in the Contract. The quality certificate shall form an integral part of the documents to be presented to the Employer for payment pursuant to TCC Clause 17.1.2, but shall not be regarded as final with respect to quality, specification, performance, quantity and

weight. Particulars and results of the tests made by the manufacturer shall be shown in a statement to be attached to the quality certificate.

- 8.4. If, during the warranty period specified in TCC Clause 15, it is found that the quality or specifications of the Goods or Works are not in conformity with the Contract or if the Goods or Works are proven to be defective for any reason, including latent defects or the use of unsuitable materials, the Employer shall promptly notify the Contractor of the existence of a claim.
- 8.5. Nothing in TCC Clause 8 shall in any way release the Contractor from any warranty or other obligations under this Contract.

9. Terms of Shipment

- 9.1 The Contractor shall be at its own expenses and responsible for shipping/transporting the Goods and any other materials required to the project site in the Macau International Airport
- 9.2 If temporary storage place for the Goods and Materials is required, The Contractor shall be at its own expenses and responsible for facilitating the installation, it is contractor responsible to arrange the temporary storage at its own cost with relevant insurance during the storage periods. The transportation required to and fro the storage and project site must be included in the contract its own cost.
- 9.3 The Contractor shall not ship/transport more than the contracted quantity or weight. The Employer shall not be responsible for any cost or other consequences arising from shipment/transportation of excess quantities or weight.
- 9.4 The contract shall ensure the packing is provide enough protection for the shipping and shall ensure the delivery of good will not be damaged in transit.

10. Delivery and Documents

- 10.1. Upon shipment, the Contractor shall notify the Employer and the Insurance Company by fax of the full details of shipment, including Contract number, date and No. of Bill of Lading, description of Goods, quantity, name of the carrying vessel, date of shipment, name of shipping place, name of unloading place,

estimated date of arrival of the Goods at the destination, etc. For the purpose of contract payment, the Contractor shall present through Contractor's bank (when applicable) the relevant "Payment-Documents" to the Employer in accordance with the requirements stipulated in Clause 17 hereunder.

11. Insurance

11.1. The Goods supplied under the Contract shall be fully insured in a freely convertible currency against all risks of whatever nature of loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery.

11.2. The Contractor shall, prior to commencing the works, effect and thereafter maintain a Contractor All Risks (CAR) Insurance and other insurances according to Macau S.A.R. Laws as well as Rules and Regulations of Macau International Airport, including CAM and the Airport Operation Service Provider (currently "ADA") and the Macau International Airport and their staff to be added as the joint insured in the policy.

11.3. For the "Material Damage Section" of the CAR Insurance, it should insure the total contract value of the project, and for the "Third Party Liability Section", a limit not less than Macau Patacas Twenty Million (\$20,000,000.00) per accident and for an unlimited number of occasions has to be effected, until the issue of the Final Acceptance Certificate after the end of the Defects Liability Period (DLP) and the Contractor's total completion of its obligations to the satisfaction of the Employer:

- a) for liability of loss, damage, death or injury to third parties or their property arising out of the Contractor's performance of the Contract, including the Contractor's liability for damage to the Employer's properties other than the contract works;
- b) for liability of impact on other systems during the Works, or after the Works with proved evidence;

c) for Professional Indemnity to cover the error & omission, breach of professional duties for or negligence to perform the expected servicing standard of a professional supplier / contractor.

11.4. The Contractor shall also effect and maintain Employee Compensation and any other mandatory insurances in accordance with the laws and regulations of the Macau S.A.R.

11.5. The insurance policies must include a clause of cross liability jointly covering CAM, the Airport Operation Service Provider, and the Macau International Airport.

12. Transportation

12.1. Transport of the Goods, Materials and Tools to named place of destination, temporary storage, project site of Macao International Airport, as shall be specified in the Contract, shall be arranged and paid for by the Contractor, the cost thereof shall be deemed to be included in the Contract Price.

13. Incidental Services

13.1. The Contractor shall provide all the services as specified in Project Requirement. The price for performing the required incidental services shall be deemed to be included in the Contract Price.

14. Spare Parts

14.1. The Contractor shall ensure the availability of spare parts or replaceable products for ten (10) years from the issue of the Final Acceptance Certificate. In addition, the Contractor shall provide the following materials, notifications, and information pertaining to spare parts:

- 1) such spare parts as the Employer may elect to purchase from the Contractor, without relieving the Contractor of any warranty obligations under the Contract; and
- 2) advance notification to the Employer of the impending termination of production of spare parts allowing sufficient time to the Employer to procure needed spare parts and to take other measures required; and
- 3) the schematics , drawings, and specifications of the spare parts, which are to be furnished at no cost of the Employer if requested, following the termination of production of the spare parts.

14.2. The Contractor shall provide necessary spare parts as specified in Project Requirement.

15. Warranty

15.1. The Contractor warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design, technical specification and materials unless provided otherwise in the Contract. The Contractor further warrants that all Goods supplied or Works carried out under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and /or material is required by the Employer's specifications) or from any act or omission of the Contractor, that may develop under normal use of the supplied Goods or Works in the conditions prevailing in the country of final destination.

15.2. This warranty shall remain valid for **two (2) years** after the Employer's signing the Provisional Acceptance Test Certificate for this Contract ("Defects Liability Period").

15.3. The Employer shall promptly notify the Contractor in writing of any claims arising under this warranty.

15.4. Upon receipt of such notice, the Contractor shall promptly repair or replace the defective Goods or Works or parts thereof, without costs to the Employer.

15.5.If the Contractor, having been notified, fails to remedy the defect(s) within the period specified by the Employer, the Employer may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Employer may have against the Contractor under the Contract.

16. Claims

16.1.In case the Contractor is liable for the defects or discrepancies and a claim is lodged by the Employer, the Contractor shall settle the claim with the agreement of the Employer in one or a combination of the following ways:

- 1) Agree to the rejection of the Goods and refund to the Employer the value of the Goods so rejected in the same currency as specified in the Contract and to bear the losses and expenses incurred including interest, accrued banking charges, freight and insurance premiums, inspection charges, storage, stevedore charges and other necessary expenses required for the custody and protection of the rejected Goods.
- 2) Devalue the Goods according to the degree of inferiority, extent of damage and amount of losses suffered by the Employer, as agreed between the Employer and the Contractor.
- 3) Replace the defective Goods and/or parts thereof with new Goods, parts, components and/or equipment which conform to the specifications, quality and performance as specified in the Contract, and/or repair the defective Goods and/or Works at the Contractor's expenses and risks and bear all directly related expenses sustained by the Employer. The Warranty according to TCC Clause 15 shall remain valid for the new or repaired Goods and/or Works for a length of time as specified in TCC Clause 15.2 counting from the Employer's provisional acceptance of the new or repaired Goods and/or Works.

16.2.If the Contractor fails to resolve the claim in any of the ways described above as agreed upon by the Employer within thirty (30) days after notification of the claim(s) by the Employer or a longer period of time agreed upon by the Employer,

the Employer will proceed to recover the claim amount from the performance security established by the Contractor.

17. Payment

17.1 Subject to Clause 18 [Macau Tax Law], the method and conditions of payment to be made to the Contractor under this Contract shall be:

17.1.1. The Employer shall pay twenty percent (20%) of the total Contract Price as advance payment after receiving all the following documents and finding them in order:

- 1) One original and one copy of irrevocable Letter of Guarantee for advance payment issued by a reputable bank acceptable to the Employer for an amount equivalent to twenty percent (20%) of the Contract Price. (The advance payment guarantee will be released after the payment referred to in Clause 17.1.2 below is made.)
- 2) Pro-forma invoice covering twenty percent (20%) of the total Contract Price.
- 3) A certified true copy of the Contractor's latest M/1 Form and M/8 form which shall be duly updated and shall have been submitted to the Financial Services Bureau of Macau according to law.

17.1.2. The Employer shall pay ten percent (10%) of the total Contract Price after receiving all the following documents and finding them in order:

- 1) Receiving Macau Civil Aviation Authority approval of statutory submission of the Security Screening equipment.
- 2) Approval of CAM to place the order to the approved security screening equipment.
- 3) Packing list, shipping documents for the delivery scheduled
- 4) Pro-forma invoice covering ten percent (10%) of the total Contract Price.

- 5) A certified true copy of the Contractor's latest M/1 Form and M/8 which shall be duly updated and shall have been submitted to the Financial Services Bureau of Macau according to law.

17.1.3. The Employer shall pay thirty percent (30%) of the total Contract Price after receiving all the following documents and finding them in order:

- 1) Goods received note – after goods delivery on site or temporary storage, and responsibly checked by contractor to confirm the goods is in good condition and ready for the installation, a Goods received note must be endorsed by both contractor and client and taken as a record for the payment of delivery to site.
- 2) Pro-forma Invoice covering thirty percent (30%) of the total Contract Price.
- 3) A certified true copy of the Contractor's latest M/1 Form and M/8 which shall be duly updated and shall have been submitted to the Financial Services Bureau of Macau according to law.

17.1.4. The Employer shall pay thirty five percent (35%) of the total Contract Price after receiving all the following documents and finding them in order:

- 1) Copy of Certification by the Supervision for verifying all of works under the Contract are completed by the Contractor.
- 2) one copy of Provisional Acceptance Test Certificate jointly signed by the Contractor, Employer, and the End-user and maintainer after the present of function test has been passed by the airport authority.
- 3) Pro-forma Invoice covering thirty five percent (35%) of the total Contract Price.
- 4) A certified true copy of the Contractor's latest M/1 Form and M/8 form which shall be duly updated and shall have been submitted to the Financial Services Bureau of Macau according to law.

17.1.5. The Employer shall pay five percent (5%) of the total Contract Price after receiving all the following documents and finding them in order:

- 1) Copy of the Final Acceptance Certificate issued by the Supervision and the Employer after the end of the Defects Liability Period (DLP) and the Contractor's total completion of its obligations to the satisfaction of the Employer. The Final Acceptance Test Certificate jointly signed by the Contractor, Employer, and the End-user and maintainer after the defect(s) as counted in the defect liabilities period has been rectified and accepted by Employer, End-user and maintainer.
- 2) Pro-forma invoice covering five percent (5%) of the total Contract Price.
- 3) A certified true copy of the Contractor's latest M/1 Form and M/8 which shall be duly updated and shall have been submitted to the Financial Services Bureau of Macau according to law.

18. Macau Tax Law

- 18.1 The Contractor shall be responsible for compliance with the tax law in Macau. The Contractor shall pay at its own expenses all the taxes and dues levied on it by the Macau Government.
- 18.2 The Contractor shall provide to CAM, as soon as possible and also before each and every time any payment under the Contract is made to the Contractor, a certified true copy of the Contractor's latest M/1 Form and M/8 form submitted to the Financial Services Bureau of Macau, failing which payments due to the Contractor may be withheld.

19. Change Orders

19.1. The Employer may at any time, by a written order given to the Contractor pursuant to TCC Clause 32, make changes within the general scope of the Contract in any one or more of the following:

- 1) drawings, designs, or specifications;
- 2) the place of delivery; and/or
- 3) the incidental services to be provided by the Contractor.

19.2.If any such change causes an increase or decrease in the cost of, or the time required for, the Contractor's performance of any provisions under the Contract, the Employer shall determine an equitable adjustment in the Contract Price or Project schedule, or both, and the Contract shall accordingly be amended. Any claims by the Contractor for adjustment under this clause must be asserted within thirty (30) days from the date of the Contractor's receipt of the Employer's change order.

20. Contract Amendments

20.1.Subject to TCC Clause 19, no variation in or modification of the terms or provisions of the Contract shall be made except by written amendment signed by the parties.

21. Assignment

21.1.The Contractor shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Employer's prior written consent.

22. Subcontractors

22.1.The Contractor shall notify the Employer in writing of all subcontracts awarded under this Contract. Such notification shall not relieve the Contractor from any liability or obligation under the Contract.

23. Delays in the Contractor's Performance

23.1.Delivery of the Design, Goods and performance of Works and Services shall be made by the Contractor in accordance with the time schedule prescribed by the Employer.

23.2.If at any time during performance of the Contract, the Contractor or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods or performance of Works or Services, the Contractor shall promptly notify the Employer in writing of the fact of the delay, its likely duration and its cause(s).

As soon as practicable after receipt of the Contractor's notice, the Employer shall evaluate the situation and may at its discretion extend the Contractor's time for performance, with or without imposition of penalties, in which case the extension shall be ratified by the parties by amendment of the Contract.

23.3. Except as provided under TCC Clause 26, a delay by the Contractor in the performance of its obligations shall render the Contractor liable to the imposition of penalties pursuant to TCC Clause 24, unless the time for performance is extended pursuant to TCC Clause 23.2 without the application of penalties.

24. Penalty

24.1. Subject to TCC Clause 26, if the Contractor fails to deliver any or all of the Goods or to perform the Works or Services or obligations within the period(s) specified in the Contract, the Employer may, without prejudice to its claims for damages or other remedies or applicable penalties, deduct from the Contract Price, as penalty, a sum equivalent to zero point one percent (0.1%) of the Contract Price per day, within the first thirty (30) days, and, from the thirty-first (31st) day onward, a sum equivalent to zero point two percent (0.2%) of the Contract Price per day, until actual delivery or performance, up to a maximum deduction of ten percent (10%) of Contract Price. Once the maximum is reached, the Employer may consider termination of the Contract pursuant to TCC Clause 25.

25. Termination for Defaults

25.1. The Employer, by written notice of default sent to the Contractor, may terminate this Contract in whole or in part without prejudice to any other remedy for breach of Contract:

- 1) if the Contractor fails to deliver any or all of the Design, Goods, Works and Services, within the period(s) specified in the Contract or within any extension thereof granted by the Employer pursuant to TCC Clause 23; or
 - 2) if the Contractor fails to perform any other obligation(s) under the Contract;
- or

3) if the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this clause:

- a. "corrupt practices" means the offering, giving, receiving or soliciting of any things of value to influence the action of the Employer in the procurement process or in contract execution.
- b. "fraudulent practices" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer.

25.2. In the event the Employer terminates the Contract in whole or in part, pursuant to TCC Clause 25.1, the Employer may, among other applicable remedies, procure Goods, Works or Services similar to those undelivered upon such terms and in such manner as it deems appropriate, and hold the Contractor liable to the Employer for any excess costs for such similar Goods, Works or Services. However, the Contractor shall continue performance of the Contract to the extent not terminated.

26. Force Majeure

26.1. If either of the parties to the Contract be prevented from executing the Contract by such cases of Force Majeure as war, serious fire, flood, typhoon and earthquake and other cases that the parties could not reasonably foresee at the time of conclusion of the Contract and its occurrence and consequences can neither reasonably be avoided nor reasonably be overcome, the time for execution of the Contract shall be extended by a period equal to the effect of those causes.

26.2. The prevented party shall notify the other party by cable or fax or telex within the shortest possible time of the occurrence of the Force Majeure event and within fourteen (14) days thereafter send by registered airmail to the other party, a certificate for evidence issued by the relevant authorities for confirmation. Should the effect of Force Majeure continue for more than one hundred and twenty (120) consecutive days, both parties shall settle the further execution of the Contract through friendly negotiation and reach an agreement within a reasonable time.

27. Termination for Insolvency

27.1. The Employer may at any time terminate the Contract by giving written notice to the Contractor if the Contractor becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Contractor, and such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Employer.

28. Termination for Convenience

28.1. The Employer, by written notice sent to the Contractor, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Employer's convenience, the extent to which performance of the Contractor under the Contract is terminated, and the date upon which such termination becomes effective.

28.2. For the Goods that have not been delivered or the Works or Services that have not been performed upon such termination, the Employer may select:

- 1) to have any portion completed, delivered and/or performed at the Contract terms and prices; and/or
- 2) to cancel the Goods, Works and/or Services and pay to the Contractor an amount for the costs of the Goods, Works or Services partially completed upon such termination and of the materials and parts procured by the Contractor prior to such termination.

29. Resolution of Disputes

29.1. All disputes arising from the execution of or in connection with the Contract shall be settled through amicable consultation by both parties. In case no settlement can be reached within sixty (60) days after commencement of such consultation, the disputes shall be submitted for arbitration.

29.2. Any dispute which is referred to formal arbitration under sub-clause 29.1 shall be settled by arbitration in Macau S.A.R. at World Trade Center Macau Arbitration

Center and in accordance with its Internal Regulations as at present in force. The arbitration procedure will be carried out by collective Tribunal, except any further agreement made by both parties.

The arbitrator is appointed by both parties or, in the absence of an agreement for that purpose, by the World Trade Center Macau Arbitration Center.

The language to be used in the arbitral proceedings shall be English.

30. Governing Language

30.1. Unless otherwise agreed, the Contract shall be written in the English language.

31. Governing Law

31.1. The Contract shall be governed by and interpreted in accordance with the current laws of the Macau S.A.R.

32. Notices

32.1. Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing to the other party's address specified or to such address of the party concerned as indicated in its latest address change notice.

32.2. A notice shall be effective when delivered or on the notice's effective date, whichever is later.

33. Taxes and Duties

33.1. All taxes in connection with the execution of this Contract levied by the Macau S.A.R. Government on the Employer in accordance with the tax laws in effect shall be borne by the Employer.

33.2. All taxes in connection with the execution of this Contract levied by the Macau S.A.R. Government on the Contractor in accordance with the tax laws in effect shall be borne by the Contractor.

33.3. All taxes arising outside of the Macau S.A.R. in connection with the execution of this Contract shall be borne by the Contractor.

34. Miscellaneous

34.1. It is the responsibility of the Contractor to arrange at its own expense export license(s), if required, for the Goods and Materials covered by this Contract.

34.2. The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- (1) the Contract Form,
- (2) the Notification of Award,
- (3) the Contractor's Bid Form,
- (4) these Terms and Conditions of Contract,
- (5) the Bill of Quantities,
- (6) the Project Requirements,
- (7) any other parts of the tender document,
- (8) any other parts of the Contractor's proposal.

35. Joint and Several Liability

35.1. If the Contractor constitutes a joint venture, consortium or other unincorporated grouping of two or more persons/companies:

- 1) these persons/companies shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;
- 2) these persons/companies shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons/companies; and
- 3) the Contractor shall not alter its composition or legal status without the prior written consent of the Employer.

36. Contractor's Design Liability

36.1. The Contractor shall carry out all and any works and services to give sufficient details for the construction or installation of the Works so as to ensure that the

materials/equipment selected by the Contractor is in compliance with the Contract requirements in the Project requirement, product required technical specification and on the Drawing, and the Works are workable as a whole in compliance with the performance requirements of all testing and commissioning and tests as stipulated in the Contract.

Section-3 Attachments

1. Bid Form
2. Form of Bid Security
3. Form of Power of Attorney
4. Form of Performance Security
5. Bank Guarantee for Advance Payment

1. Bid Form

Date: _____

To: *(name of Employer)*

In compliance with your Tender Document for (name of project), the undersigned representative *(full name and title)* duly authorized to act in the name and for the account of the Bidder *(name and address of the Bidder)* hereby submit the following in one original and ____ copies:

1. Bill of Quantities;
2. Brief Description of the Goods and Services;
3. Any deviation of Commercial terms and Technical requirement;
4. All the other documents required in response to Instructions To Bidders and Project Requirements;
5. Bid Security in the amount of _____ issued by (name of issuing bank).

By this letter, the undersigned representative hereby declares and agrees:

1. That the Total Bid Price for the supply, delivery and install of the Design, Goods, Works and Services specified in Project Requirements in accordance with all provisions of the Tender Document is FIXED LUMP SUM *(specify currency and price in words)*, that is *(currency and price in figures)*.
2. That the Bidder will take full responsibility for Performance of the Contract in accordance with all provisions of the Tender Document.
3. That the Bidder has examined in detail all the documents including amendments (if any) and all information furnished for reference as well as relevant attachments and that he is perfectly aware that he must renounce all right of invoking ambiguities or misunderstandings in this respect.

4. That the Bidder's bid is valid for a period of ____ calendar days from the date of the deadline for the submission of bids.
5. That, pursuant to ITB Clause 18.5, its Bid Security may be forfeited.
6. That, pursuant to ITB Clause 2, the Bidder is not associated with a firm or any of its affiliates which have been engaged by the Employer to provide goods and services for this Project, and the Bidder is not a dependent agency of the Employer.
7. That the Bidder agrees to furnish any other data or information pertinent to its Bid that might be requested by the Employer and that the Bidder understands that the Employer is not bound to accept the lowest or any bid it may receive.
8. That all official correspondence pertinent to this bid shall be addressed to:

(Detailed Contact information of the Bidder and Representative)

*If a bid is being made by a partnership or an unincorporated joint venture or grouping, the names and addresses of all partners or members of the joint venture or grouping should be inserted. Please note ITB Clause 20.4.

**2. Form of Bid Security
(For reference)**

Issuing Date: _____

To: (Name of Employer)

This Guarantee is hereby issued to serve as a Bid Security of (Name of Bidder) (hereinafter called as the “Bidder”) for Invitation for Bid for supply of (Name of Tender) to (Name of Employer).

(Name of Issuing Bank) hereby unconditionally and irrevocably guarantees and binds itself, its successors and assigns to pay you immediately without recourse, the sum of (Currency and Figure in Words) upon receipt of your written notification stating any of the following:

- 1) The Bidder has withdrawn or unilaterally modified his Bid after the time and date of the deadline for the submission of bids and before the expiration of its validity period;
or
- 2) The Bidder has failed to sign the Contract Form within forty-five (45) days after receipt of the Notification of Award; or
- 3) The Bidder has failed to establish acceptable Performance Security within thirty (30) calendar days after receipt of Notification of Award.

It is fully understood that this guarantee takes effect from the date of the deadline for the submission of bids and shall remain valid for a period of _____calendar days thereafter, and during the period of any extension thereof that may be agreed upon between you and the Bidder with notice to us, unless sooner terminated and/or released by you.

(Printed name and designation of official authorized to sign on behalf of issuing bank)

**3. Form for Power of Attorney
(For reference)**

KNOW ALL MEN by these presents that the undersigned (Name) (Title) of (Firm) lawfully authorized to represent and act on behalf of the said company, whose registered address is _____do hereby appoint (Name) (Title) of (Firm), whose signature appears below to be true and lawful attorney, and authorize the said attorney to execute all the necessary matters related thereto, in the name and on behalf of the said company in connection with the tendering process for and/or Contract of _____Project.

In witness thereof, we have hereto set out respective hands this (date, month and year).

Signature of Legal Representative: _____

Signature of Attorney: _____

Witnessed by: _____

Name and Title of Witness: _____

Name of Firm of Witness: _____

Address of Witness: _____

**4. Form for Performance Security
(For Reference)**

Issuing Date: _____

To: *(Name of the Employer)*

Performance Security of Contract _____

This Guarantee is hereby issued to serve as the Performance Security of *(Name of the Contractor)* (hereinafter called the “Contractor”) for Contract _____ dated _____ between you and the Contractor for _____ Project (hereinafter called the “Project”). The *(Name of Bank)* (hereinafter called the “Bank”) hereby unconditionally and irrevocably guarantees and binds itself, its successors and assigns to pay you, without recourse, up to the total amount of *(Currency and amount)* representing ten percent (10%) of the Contract Price in *(Name of Currency)* and accordingly covenants and agrees as follows:

- 1) On the Contractor’s failure, determined by you and notwithstanding any objection by the Contractor, of the faithful performance of all the Contract Documents, agreed modifications, amendments, additions and alterations thereto that may hereafter be made including replacement and/or making good of defective goods (hereinafter called “failure of performance”), the Bank shall immediately, on your first demand in a written notification stating the failure of performance by the Contractor, pay you such amount or amounts as required by you not exceeding the aggregate total as stated above in the manner specified in the said notification.
- 2) Any payment hereunder shall be made free and clear of and without deduction for or on account of any present or future taxes, duties, charges, fees, deductions or withholdings, of any nature whatsoever and by whoever imposed.
- 3) The covenants herein contained constitute unconditional and irrevocable direct obligation of the Bank. No alteration in the terms of the Contract to be performed hereunder and no allowance of time by you or any other act or omission by you which but for this provision might exonerate or discharge the Bank shall in any way release the Bank from any liability hereunder.

- 4) This guarantee shall remain valid and in full force and effect until your issuing the Final Acceptance Certificate upon the end of the Defects Liability Period (DLP) and the Contractor's satisfactory completion of its obligations as specified in the Terms and Conditions of the Contract.

(Printed Name and Designation of officials authorized to sign on behalf of issuing bank)

5. Bank Guarantee for Advance Payment (For Reference)

To: *(Name of Employer)*
(Name of Contract) (hereafter referred to as “Contract”)

In accordance with the provision of Clause 17 of the Terms and Conditions of Contract, *(Name and Address of the Contractor)* (hereinafter called “the Contractor”) shall deposit with the Employer an irrevocable bank guarantee to guarantee its proper and faithful performance of the Contract in an amount of *(Currency & Amount of Guarantee in Figures and Words)*.

We, *(Name of Bank)*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Employer on its first demand without whatsoever right of objection on our part and without its first claim to the Contractor, in the amount not exceeding *(Currency & Amount of Guarantee in Figures and Words)*.

We further agree that no change or addition to or other modification of the terms of the Contract to be performed hereunder or of any of the Contract Documents which may be made between the Employer and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

(Printed Name and Designation of officials authorized to sign on behalf of issuing bank)

Section-4 Project Timeline

The required project timeline should not exceed 180 calendar days, time may be extend by CAM to suit the latest airport requirements.

	Deliverable of work	Time frame
1	Technical specification submission and approval by Macao Civil Aviation Authority	No exceed 30 calendar days
2	Manufacturing	No exceed 90 calendar days
3	Delivery to site (Macao Airport)	No exceed 30 calendar days
4	Site installation, T&C and provide the O&M training	Not exceed 30 calendar days
	Total project timeline	Not exceed 180 calendar days

Section-5 Statement of Project Requirements

Section-5 Statement of Project Requirements

1.0 Overview of the Project

CAM intends to acquire the procurement for the purchase, delivery, installation, training and maintenance contract of the respective security screening equipment, detailed descriptions in this sections 5 and Section 6 Bill of Quantities (“ BQ”).

CAM may consider awarding the entire or part of the scope to the selected contractor.

2.0 Objective of the Contract

2.1 Background

Most of the existing security screening equipment has been operated round the clock for more than decade; most of the existing security screening equipments are obsolete and shall be replaced. The replacement is to fulfil and maintain or improve the service level and requirement of airport operations, security controls. The contractor has to fulfil their contractual obligation and work in accordance with the contract conditions and the Law of Macao.

2.2 Project Setting and Description

The project area shall be mainly within the airport boundary with part of the works may be performed on remote site. Please find Section 7 Replacement Information for X-ray machines and corresponding locations for reference.

2.3 Work schedule

This procurement shall include the replacement of 9 units of Cabin Baggage, 1 units of Walk through metal detector, 1 units of handheld metal detector, and 2 units of Desk Top Explosive Trace Detector(ETD), that included manufacturing, import, delivery, installation, T&C, O&M training and maintenance arrangement for the new X-ray and security screening equipment.

The airport operation and security controls level are not allowed to be disrupted and degraded, the contractor is responsible to plan and arrange the schedule in a proper way that the replacement work shall be promptly completed within CAM final approved schedule and work program, such as site preparation, machine delivery, installation, test and commissioning, acceptance, training and maintenance arrangement. The contractor must always cooperate with Airport’s operations and security controls.

The project timeline

	Description	Time frame
1	Technical specification submission and approval by Macao Civil Aviation Authority	No exceed 30 calendar days
2	Manufacturing	No exceed 90 calendar days
3	Delivery to site (Macao Airport)	No exceed 30 calendar days
4	Site installation, T&C and provide the O&M training.	Not exceed 30 calendar days
	Total project timeline	Not exceed 180 calendar days

Bidder has to confirm their compliance on this project requirement and shall provide a details work plan and schedule for CAM consideration. Any delay in completion of the work over the stipulated and approved period will attract penalty as stated in the conditions of contract.

2.4 Scope Reduction/ Termination

- (i) If the scope of the procurement is reduced, the contract amount will be reduced proportionately to reflect the reduction in provision; the Contractor shall comply with the Client's directions about the remaining provision in scope and take all available steps to minimise the loss resulting from the reduction in scope.
- (ii) If the termination is due to the default of the contractor, the Contractor shall pay reasonable direct costs and expenses incurred by the Client in connection with termination and procuring or performing similar services.

3.0 Scope of the Works

Purchase of items, delivery and installation and commissioning

The contractor shall be fully responsible for the statutory approval for operating the procured equipment. Follow the requirements of most update and available of civil aviation and international security screening regulations, standards, the security screening equipment (including X-ray Screening machines, Walk Through Metal Detectors, Handheld Metal Detectors and Explosive Trace Detectors) and related services shall supply and subject to satisfactory of supply, installation, testing, commissioning, commencement and functioning and successful handover to the user/operator and maintainer, the work and equipment will be accepted in according to the contract. The contractor must submit all the available or necessary certificates for the furnishing products and services to client for facilitating the statutory submission and approval process. The bidder's proposal must demonstrate any evidence, certificates of what standard of products and services are furnishing.

The replacement includes but are not limited to the equipments supply, delivery, transportation, storage, import, tax, insurance, miscellaneous expense, installation, removal, disposal, software, licenses, testing and commissioning, O&M training, and maintenance arrangement for completing the entire Security Screening Equipment replacement.

Offer from the bidder without local technical support and maintenance unit stationary in Macao will not be considered. Lawful employment must be applied, no illegal worker shall be allowed. Only the manufacturer qualified technicians or engineers can perform the X-ray machines and screening equipments' installation and maintenance, relevant manufacturer issued certification must be submitted for client reference.

The X-ray machine must include all components delivered to Macao International Airport must be brand new, not used or a demonstrator unit, and shall be form the manufacturer's latest product offering and incorporate the manufacturers' newest technology and electronic design.

Recommended spares for satisfactory operation for a minimum period of one year. Import license shall be furnished in this purchased order.

Inspection/Test certificates should be provided for the goods any inspection or any other acceptance process is considered necessary, it shall be arranged by contractors.

It is responsibility of contractor to inspect installation site and get acquaintance with all local conditions, means of access / maintenance to the work, nature of the work and all matters pertaining thereto.

4.0 Requirement – This section has stipulated the minimum technical requirements and bidder has to specify their offers, particularly any alternative to the stipulations herein.

4.1 Cabin Baggage X-ray Screening Machine

4.1.1 General

1) X-ray screening equipment is required for use in detecting both metallic and non-metallic objects. They may scan in any form of baggage carried or placed on board an aircraft. The list of items to be identified includes: firearms (both metallic and non-metallic), firearms components, ammunition (all calibres), grenades and other fragmentation/blast weapons, knives, batons, swords, explosives, detonators and timing devices, electrical and electronic items, power sources etc.

2) The tunnel dimension should be specified by the bidder and suit the purpose of each screening process. Bidder is required to demonstrate the suitability by quoting reference and/or relevant standard.

3) The steel roller beds and platforms, tunnel I/O housing, sideguards must be customer made and incorporate at either ends of the tunnel to facilitate placing of baggage at the input and output points.

4) The operating keyboard and TV monitor can be operated remotely.

5) The x-ray machine must have the readiness of networking. The system can be integrated into network solutions. Typical applications are: Image rechecks at remote workstation or control room, network printer interface, Central Image Data Archive, in line baggage handling and conveyor system interface. The image can be transferred as standard commercial formats (jpg, tif, bmp etc), a system that connects to X-ray screening system can provide archive and retrieval features for the associated data for review will be required.

6) Maximum height including the tunnel shall be specified by the bidder for suiting the purpose of the concerned screening process. The tunnel size must ideally suitable for screening the cabin baggage. The conveyor load capacity must be considered and designed for the types of baggage, packages, steel trunk, briefcase, handbags, small items, heavy objects safe operations and screening. Maximum conveyor load even distributed over the whole conveyor must be 150kg for cabin baggage. Conveyor belt should be seamless low maintenance. The conveyor's speed must fulfil 0.2/0.24 meter per second.

7) The unit must be quiet when operating, low noise level must follow available and applicable law and standard.

8) The maximum X-ray and high-voltage should be specified by the bidder and demonstrated safe in operation.

9) Operating temperature shall be 0 to 40 degree Celsius, storage temperature -20 c to +60 degree Celsius.

10) Control elements (push buttons, switches etc.) are to be of sturdy design, selected for severe operating conditions and user friendly designed.

11) The unit must be of steel base construction suitable for mounting on the fixed stand, to be supplied together with the unit and preferably lighter in weight; please note that the contractor shall be responsible for verifying the suitability of the fixing location which might include the structural calculation.

12) The machine must be able to display clear single un-insulated tinned cooper wire of standard 38AWG(0.1mm) for cabin baggage. All penetration and resolution condition should be met without pressing any functional key. The penetrations (steel) are: 27mm for cabin baggage.

13) Duty cycle must be 100%, no warm-up procedure required

14) The equipment should have sufficient expandability, particularly in allowing incorporation of new techniques on image processing and pattern recognition software enhancements should be easily implemented.

- 15) The system must operate on one latest version of software and allow ease of updating.
- 16) Video connection should be possible to record easily the image seen by the operator. Outputs should be provided to permit the connection of a video recorder or an external “black box”. Such out-ports should provide both composite video and RGB signals compatible with video recorders. It should be possible to input test images via video input.
- 17) Film safety – Photographic films should not be damaged due to X-ray examination. The equipment must be film safe in compliance with relevant international standard. Bidders/contractor must guarantee the unconditional safety of photographic material of professional quality. Typical standards must allow for highly sensitive films of 1000 ASA to be irradiated at least 30 times without damage.
- 18) The unit shall be placed in position and assembled on site by the contractor. The final position will be determined on site. Also, the contractor shall be required to verify the structural capacity of the selected position, if necessary, for securing the new loading arrangement.
- 19) Bi-directional scanning should be provided without holding any switch.
- 20) The operation language should be Chinese (preferable language) or English.
- 21) The machine must comply with the requirements of current health and safety legislation and be approved and licensed for use by the appropriate authority of Macao. X-ray leakage must meet all applicable laws and regulations with respect to X-ray device.
- 22) The offer should be completed with compliance statement for each of our specifications, offering features, safety features and optional items. Indicating merely ‘YES’, ‘NO’ or OKAY’ in the compliance statement will not be considered. Appropriate parameter (numerical) values should be specified wherever necessary.
- 23) Computer must provide uninterrupted 20minute power supply backup.
- 24) Labelling and warning signs – Cautionary wording such as “CAUTION – X-ray”, or a trefoil radiation warning symbol, the dimension is approximately 400mm x 300 mm.
- 25) The disposal or resale of X-ray machine must follow the law of Macao.
- 26) All products must be delivered in the manufacturer’s standard packaging. Price shall include all packing and crating charges. Case shall be of durable construction, good condition, properly labelled and suitable in every respect for storage and handling of contents.

4.1.2 Power Ratings

- a) The unit has to operate from 230V±5%, 50Hz, single phase, three wire (phase, neutral and earth) power supply.
- b) The power point shall be provided by the airport and specified by the contractor for connection.

4.1.3 Display Requirements

- a) The system must be able to produce flicker free, clear colour & monochrome images and edges of the objects on the monitors with minimum of 1280 x 1024 pixel colour. The X-ray beam divergence shall be such that the complete image of maximum size of baggage or object is displayed without corner cuts. Parallel operation of additional monitors, without modification to the unit, must be available.
- b) Image features shall be keyboard controllable.
- c) Zoom facility should be available to magnify the chosen area of an image up to (x16) times or more without pixel distortion.

- d) 3 colour conventional imaging, different colours should be assigned to metallic and organic material in multi-energy x-ray image. A third colour should be assigned to objects through which the x-rays cannot penetrate. A single colour image representing just the organic component should be possible to easily identify explosive.
- e) Edge enhancement should be allowed to modify the periphery of the object images for enabling better visibility on the display.
- f) Control of brightness and of contrast must be provided on the front panel of the TV monitor.
- g) Possibility of switching over from “POSITIVE” to “NEGATIVE” image should be available as an option.
- h) The system should be capable of recalling 15-20 previous images and have the capability of achieving 1000-2000 images. A digital memory is essential and its capacity should be enough for operation. Suppliers need to specify their provisions.
- i) The machine must be able to display the image of 33 SWG (0.254mm) single copper wires not covered by the step wedge in the Combined Test Piece. In the penetration test the 25SWG(0.508mm) must be seen under the second step of wedge (5/16”).
- j) Cabin baggage x-ray machine can penetrate 27mm steel must be required.
- k) Objects should be distinguished by differing shades of Grey. Such shades are caused by variations in the amount of x-rays penetrating the target bag. The image should be reversible. Any equipment that uses a black and white display only does not meet the requirements. A minimum number of 256 shades of grey are required to be distinguished on a monitor; each level in the displayed group should be assigned a visually discernible shade for detailed display. Grey levels stored should be 4096 or better.
- l) The conveyor belt speed should be such that each point of an object, when passing through the unit, will be visible for a second and can review of previous images, 15 to 20 images.
- m) The image quality on the monitor must be uniform, without distortion in the centre and the edges.
- n) It should be possible for the displayed image to show an operator identification number and the time and date.
- o) Automatic detection. The equipment should allow automatically detect the presence of explosive material or components of an improvised explosive device.
- p) If the machine fails to penetrate a particular item, then both audio and visual alarm should be generated to notify the operator
- q) Facility for variable contrast must be incorporated to allow enhancement of lighter and darker portion of the image.

4.1.4 Controls

- a) A main key switch for 230V main power supply is required.
- b) As a minimum, 9 push button keyboards for zoom sector selection and a separate push button for zoom activation is required.
- c) A robust, RED, emergency stop push button, fitted in a prominent position on the keyboard, as well as on the X-ray unit.
- d) Light symbols indicating “X-ray on”.
- e) Easy operation of the unit is essential.
- f) Control desk with security housing and locking provision should be available. The system should allow authorised users to function only after authenticating through personal identification number, which is entered through the keyboard.
- g) All operating software features should be controlled from keyboard of machine only. Keyboard function should be user friendly.

4.1.5 Threat Image Projection (TIP)

- a) The system should have TIP facility and provision for adapting new techniques in image processing and pattern recognition technology should be provided.
- b) The system should have recoding facility and the images files should be stored in ZIP format.
- c) The system should have software-controlled diagnosis report facility and the system should give printout.
- d) TIP software facility should be incorporated in the offered x-ray machine to assist the supervisors in testing the operator's alertness and training x-ray screener/ operators to improve their ability in identifying specific threat object.
- e) TIP software should be compatible with other x-ray technologies. All x-ray image functions should be available at the same time along with TIP.
- f) The TIP facility should have an image library of sufficient capacity and variety. The library should be able to expand and to incorporate additional images by user without assistance of the manufacturer.
- g) The image library should contain images of threats at different orientations – both plane and end-on orientation should be used. All image projection images should be realistic, representative and non-distinguishable from real threat items.
- h) Programming facility should be available to project images in different intervals.
- i) Once the screener/ operator has responded to identify the computer generated threat image, it should remain on the screen for a predefined user programmable time for analysis. The image should be highlighted, upon identification, and feedback message shall be visible to the screener/ operator.
- j) The system should have facility to bypass the TIP facility, if programmed, so, by the system administrator. It is to be ensured that the TIP software should not be a hindrance to normal functioning of x-ray machines.
- k) All data should be stored on the system for a minimum period of two months, after it has been downloaded. No individual, regardless of access rights to the TIP components should be able to delete or amend any of the TIP data.
- l) The feedback should clearly indicate in a screen that a TIP object has been correctly identified/ TIP object has been missed/ No TIP object was present. No message needs to be presented if the screener/operator correctly passes a clear bag.
- m) The system should automatically prepare the daily log of events for each shift and for each screener/operator performance. The system should be able to generate daily, weekly, monthly reports as well as for any given time and period.

4.1.6 Conveyor belt

- a) The height of the top the conveyor belt above floor level shall be approximately 800mm.
- b) Conveyor belt speed should be between 0.18-0.3 m/sec. The speed should be adjustable with frequency converter.
- c) Duty cycle should be 100% and heavy type and the system should be ready for operation within 2 minutes in case of power failure.
- d) Input side should have powered conveyor ramp with rollers and output should have conveyor ramp with rollers, so that the luggage shall not have free-fall. The ramp as well as input and output points should have some barrier so that luggage is prevented from falling side wise.
- e) Max conveyor load shall be specified by bidder and manufacturer. The conveyor belt must be driven noiselessly. .
- f) Anti-rodent and dustproof cover should be provided.
- g) Object must be able to be conveyed through the unit in any orientation.
- h) All objects, also those which are only partially lying flat on the conveyor belt must be fully screened.

4.1.7 Safety

- a) The machine must comply with the requirements of current health and safety legislation and be approved and licensed for use by the appropriate authority of Macao. The contractor shall be responsible for obtaining the statutory approval.
- b) The radiation level should not exceed accepted international health standard and at least less than 0.1mR/hr at a distance of 5cm from external housing.
- c) The feed and discharge ends of the conveyor belt are to be of such design that fingers, etc. cannot be caught during normal operation.
- e) The X-ray tube shall be automatically de-energised when conveyor belt is stopped.
- f) X-ray radiation shall only be switched on with the moving conveyor belt, before the object passes through the unit.
- g) X-ray radiation shall be automatically switched off the radiation shielding covers are removed.
- h) According to Health Canada Safety code 29, in order to comply with regulations, at 5 cm away from any external surface of the X-ray unit, the dose rate can be no greater than 5 micro-sievert per hour.

4.1.8 Brochures

The bidder should clearly specify the make and model no. of the items offered and submits the original product brochures.

4.1.9 Warranty, Maintenance and Annual Maintenance Contract

- a) The unit design must be of the low maintenance type and with minimum future service. Bidder and contractor are required to provide a statement to confirm the product failure rate, MTBF etc.
- b) An overall design of modular type is required, spare parts can be conveniently shared and exchanged and reused in the same manufacture's models.
- c) All sub-assemblies in the unit must be of such a design that, maintenance and repair can be carried out by reasonable minimum manpower, including removal and exchange of the X-ray generator tanks.
- d) The bidder are require to demonstrate, how fast the spare part supply and handling locally and regionally, illustration of supply location and delivery time are required to provide for reference, If required initial stocked will be arranged and spares for the product offered should be available for at least 10 years starting from the date of delivery.
- e) The contractor must have local technical support and maintenance unit stationary in Macao, such that emergency maintenance can be carried out efficiently, a service level agreement will be established between contractor and client for counting the several of service quality.
- f) The contractor shall guarantee and service the complete unit for a period of twenty four (24) months from the date of site acceptance, and successful commissioning of the unit.
- g) During the period of guarantee (**the 24 months**), the contractor shall, at his own expense, carry out all necessary corrective and preventive maintenance (on regularly basis) and any required repair work, including material and labor, (excluding work required due to damage by others) in order to maintain the unit in a good working condition and low failure rate. The maintenance plan shall be submitted to CAM for approval prior to implementation.
- h) The contractor shall, during the period of contract, within 24 hours respond and take action to repair failure unit(s) and report to CAM or its representatives the follow up status, condition and solution, the required service time will be counted as a record.

- i) After the lapse of the initial twenty four-month period of servicing, the contractor may be required to enter into a service agreement with CAM, for further period. This agreement may subsequently be renewed for yearly basis.
- j) Only the manufacturer qualified technicians or engineers can perform the X-ray machines and screening equipments' installation and maintenance, relevant manufacturer issued certification must be submitted for client reference.
- k) The successful tenderer shall thoroughly train and instruct the operators, designated by CAM in the operation of unit. The O&M training should allow at least 6 persons with maximum 10persons.

4.1.10 Testing & Manual

- a) The contractor must provide a manufacture's standard ICAO combined test piece or ASTM level 1-9 for testing and functional test.
- b) The equipment shall be able to pass all the following tests which are mandatory for compliance and responsible for obtaining statutory approval:
 - Single wire resolution (test 1) defines the ability of the system to display a single wire thin wire. The combined test piece uses a 33 SWG, (standard wire gauge, 0.254mm), un-insulated tinned copper wire. Wires of 25 SWG (0.508mm), 33 (0.254mm), 36 (0.193mm) and 40 (0.122mm) are included to show if the machine has better single wire resolution than required, or that the performance has deteriorated with time. The wires are laid out in "S" shaped curves; the requirement is to display the 33gauge wire nor covered by the step wedge. A tick should be used on the log sheet to indicate wires.
 - Useful penetration (Test 2) defines what level of detail should be seen behind a thickness of a known material. The combined test piece has different gauges of wire behind varying thickness of aluminium. This is similar to the American society for Testing & Material (ASTM) wedge that which has wires behind the steps. The requirement for this test is that the 25 SWG is seen under the second step of the wedge (5/16"). This is the equivalent of the Unites States authority's requirement. Ticks on the log sheet indicate what wires are visible.
 - Multi-energy X-rays (Test 3) with multi-energy X-rays, it is possible to distinguish between materials of different average atomic number. This means that organic and inorganic substances can be differentiated. ('Multi-energy' 'dual energy' and 'materials differentiation' are considered synonymous in the present context.) The use of sugar and salt samples encapsulated on the text piece as well as the various materials used in the construction of the combined piece, will check the material discrimination facility. The requirement is that different colours are allocated to the two samples. The optimum colours for this task are the subject of further research. A tick will indicate that the two samples are shown in the colours.
 - Simple penetration (Test 4) defines what thickness of steel the machine should be able to penetrate. The steel step wedge on the combined test piece has steps of 2mm to 12 to 24mm with a lead strip underneath. The requirement is that the lead is visible beneath 14mm of steel. A tick will indicate where a difference between the lead strip and the step wedge is visible.
 - The ability to image thin metal is tested using steel shim (Test 5). The requirement is to image steel 0.1mm thick. A tick on the log sheet indicates the steel shims are visible. Together, these tests will also demonstrate the machine's dynamic range.
 - Spatial resolution (Test 6) defines the ability of the system to distinguish and display objects, which are close together. The combined test piece tests this aspect of performance by using 18copper sheet gratings at right angles to each

- other. The requirement for this test is that a vertical and horizontal grating can be seen. A tick on the log sheet will indicate that gaps in the grating are visible.
- c) Three complete sets of manuals (together with CD copy), each with the following information shall be handed over to CAM when the unit is delivered to site:
- Manufacturer standard training manual, user manual. Service manual.
 - Technical description with system diagrams and instructions for maintenance and repairs.

4.1.11 Guarantees

The X-ray machine must include all components delivered to Macao International Airport must be brand new. The supplier must also guarantee that all the equipment, software/hardware and components, manual supplied are legally obtained and no defects.

4.2 Walk-through Metal Detectors

4.2.1 General

- a) The metal detector shall consist of a free standing walk-through frame with and integral control unit, and shall be suitable to detect metallic objects on a person by means of the magnetic field principle. In addition to complying with the specification, the metal detector shall meet the requirements of the TSA
- b) The metal detector shall be suitable to detect ferrous and non-ferrous metals.
- c) The metal detector shall be equipped to eliminate false alarms.
- d) The metal detector shall scan the entire area of the walk through area and detect metal objects on a person passing through to the levels as specified.
- e) The metal detector shall incorporate self test button to confirm that the system is operating correctly.
- f) The metal detector shall be completely tamper proof.
- g) The programme and sensitivity push buttons shall be so arranged that tampering by unauthorized persons is entirely eliminated.
- h) The metal detector shall not be adversely affected by stationary metal bars or structures in the vicinity of the unit or moving metal near the archway.
- i) Interference, which is mains-borne or radiated by an external source, should not cause the equipment to alarm spuriously. It should be possible to use equipment such as personal radios, portable telephones and x-ray monitors without causing spurious alarms. The metal detector shall be capable of operating adjacent to and X-Ray inspection unit.
- j) The detector is intended for indoor use.
- k) The detector shall be capable of operating in the following conditions:
 - Min. temperature: 0°C
 - Max. Temperature: 40°C, Max. Relative humidity:80%
- l) The operation of the metal detector shall not be adversely affected by repositioning of the frame within certain limits of its original adjusted position.
- m) The system shall accept a passage of at least 50 persons per minute without functional overload.
- n) The detection performance specifications shall be tested using the specific set of detector program parameter settings that is specified by the manufacturer to be appropriate for each object size class of detector that is to be tested.
- o) There should be both visual and audible alarms. It should be possible to adjust the volume of the audible alarm. At its loudest setting, the volume should be adequate to overcome the ambient noise present at airport facilities.

- p) The system shall be set at the recommended setting to detect the operational test piece and pass the statutory tests for obtaining approval.
- q) Only those controls required to operate the equipment shall be accessible to the operator. Other controls and adjustments that affect the detector performance shall be inaccessible to the operator. The detector shall self-testing upon turn-on without any adjustment required by the operator and shall be continuously self-testing during the period of operation with automatic self-adjusting, if required.
- r) The detector shall reset automatically to the set program parameters in the event of a detector or system failure or overload. There shall be a detector reset button to reset the detector such that program parameters are not affected if the automatic reset for a detector overload condition is not function properly.
- s) The detector indoor shall meet or exceed the requirement for compliance to IEC 60529 classification, IP41.
- t) The detector outdoor shall meet or exceed the requirement for compliance to IEC 60529 classification IP55.
- u) The detector shall have a means of storing the program and detection sensitivity settings in the event of loss or disruption of ac power to maintain the calibration and setup of the WTMD parameters.
- v) All audible indicators shall produce an alarm-state sound pressure level 0.8+/- 0.08m from the detector of 85dbspL
- w) Visual alarm indicators shall be readily perceptible when tested and shall be a two-state visual alarm; active and inactive.
- x) Any model detector manufactured by the same manufacture shall be compatible and interchangeable with previous revisions of the same model, such as replacement parts. Error codes. Program codes, diagnostic warnings, connectors. The electronics shall be of modular design and easily accessible for maintenance and repair.

4.2.2 Construction

- a) It shall comprise a manufacturer installation standard, or follow ASTM C1238 n-97(2012) standard guild for installation of walk through metal detectors
- b) The installation and positioning shall be of robust construction and shall be designed to ensure rigidity.
- c) The colour range in which the metal detectors are available must be stated by bidders. CAM will select a colour finish to suit the environment.
- d) All material consisting of metal shall be treated against corrosion.
- e) The internal dimensions of the frame shall be specified and suit normal operation condition; height should be at least 2m high and 0.76m wide.
- e) The detector shall be capable of withstanding the force of 200N(45lb) without sliding.
- f) The detector mount shall comply and meet relative permeability =1.0+/- 0.001, electrical conductivity < 10⁻⁸, Mass< 50kg
- g) The manufacture shall meet the requirements of ISO 9001:2000.

4.2.3 Control System

- a) The System shall operate by means of automatic level control adjustable to environmental changes, without the need to reset.
- b) The control unit shall be equipped with the following:
 - “ON-OFF” main switch and “MAINS ON” indicator light.
 - Selector switches with at least ten sensitivity settings, with a maximum sensitivity to consistently detect metal at least the size of a coin. The sensitivity settings shall be consistent at average walking speed.
 - Visual indication in the form of an LED Bar graph indicator having at least five green lights and five red lights representing the “PROCEED” and “ALARM” zones respectively. The indicator shall give an indication of the volume of metal on a person in accordance with the sensitivity settings of the selector switch. When the “ALARM” zone is activated it shall simultaneously activate an audible alarm having a continuous tone and adjustable volume. The alarm system will automatically reset after the metal has passed through the frame.
 - The system shall be modular to facilitate maintenance and repairs.

4.2.4 Safety Features

- a) The machine must comply with the requirements of current health and safety legislation and be approved and licensed for use by the appropriate authority of Macao. The contractor shall be responsible for obtaining the statutory approval.
- b) All electronic and electrical components shall be protected by lockable panels
- c) The manufacturer shall be required to certify in writing that the equipment has no effect on heart pacemakers and provide evidence that this has been established by a competent body.
- d) The detector shall not affect magnetic storage media or camera film.
- e) The detector shall comply with relevant health and safety regulation and any other applicable standards.

4.2.5 Electrical Supply System

- a) The detectors shall be designed for connection to a 230V +/- 5%, 50Hz, Single phase, three wire (phase, neutral and earth) power supply.
- b) A suitable and efficient battery back-up system to facilitate power failures of up to 1 hour must be incorporated in the detectors.

4.2.6 Brochures

The bidder should clearly specify the make and model no. of the items offered and submit the original product brochures.

4.2.7 Warranty, Maintenance and Annual Maintenance Contract

- a) The unit design must be of the low maintenance type and with minimum future service. A statement confirming this is required from the bidder.
- b) An overall design of modular type is preferred.
- c) Electronic modules must be easily exchanged.
- d) All sub-assemblies in the unit must be of such a design that, maintenance and repair can be carried out by single person.
- e) Spare parts must be locally/regionally stocked to ensure fast delivery if initial stock is required, it will be determined, availability must be guaranteed for a ten-year period, starting from the date of acceptance. The contractor should have a well established service support centre in Macao such that emergency maintenance can be carried out efficiently, a service level agreement will be established between contractor and client for counting the several of service quality.

- f) The contractor shall guarantee and service the complete unit for a period of twenty four (24) months from the date of test, acceptance, and successful commissioning of the unit.
- g) During the period of guarantee (**the 24 months**), the contractor shall, at his own expense, carry out all necessary corrective and preventive maintenance (on regularly basis) and repair work, including material and labor, (excluding work required due to damage by others) in order to maintain the unit in a good working condition. The maintenance plan shall be submitted to CAM for approval prior to implementation.
- h) The successful contractor shall, during the period of guarantee, repair the unit to the satisfaction of CAM or its representative(s), within 24 hours after he has been notified that the unit is not operating.
- i) After the lapse of the initial twenty four-month period of servicing, the contractor may be required to enter into a service agreement with CAM, for further period. This agreement may subsequently be renewed for yearly basis.
- j) The contractor shall thoroughly train and instruct the operators, designated by CAM in the operation of the unit. The training should allow at least 6 persons with maximum 10persons.

4.2.8 Testing & Manual

- a) The contractor shall be responsible for all testing required for the statutory approval.
- b) Three complete sets of manuals (together with CD copy), each with the following information shall be handed over to CAM when the unit is delivered to site:
 - Operating instructions
 - Technical description with diagrams and instructions for maintenance and repairs.

4.3 Handheld Metal Detector

4.3.1 General

- a) Safety Specifications and Requirements-The detector shall comply with UL 60950, Safety for Information Technology Equipment or manufacture standard.
- b) The level of the electromagnetic field generated by the detector shall be less than the exposure limits specified in IEEE C95.1–1991, as amended.
- c) The detector must be designed so that the battery life is at least 40 hours as tested, The manufacturer shall provide a visual or audible indicator to alert the operator of the battery condition
- d) The detection performance specifications shall be tested using the detection sensitivity setting that is specified by the manufacturer to be appropriate for each object size class of the detector that is to be tested. The detector needs only to qualify for the smallest object size class specified by the manufacturer; qualification to larger object size classes will be assumed.
- e) The detector shall have a power on/off switch, The detector shall have a means for selectively disabling the audible alarm. The bidder must provide all product available information for client evaluation.
- f) one extra battery must be provided.

4.3.2 Brochures

The bidder should clearly specify the make and model no. of the items offered and submits the original product brochures.

4.3.3 Warranty, Maintenance and Annual Maintenance Contract

If not accidentally or intentionally abused, most good hand-held metal detectors will require no maintenance. The lifespan must be more than 5 years.

4.4 Desk-Top Type of Explosive Trace Detection(ETD) Equipment

4.4.1 General

- a) The operator would take wipe with the ETD swab over the suspect baggage to collect a sample which is then placed into ETD device for explosive detection analysis; dual mode (vapor mode and particulate mode) will be considered. The ETD color display would after a maximum of 8 seconds present the results to the operator.
- b) The ETD shall be the TSA certified model, in reference to the latest Transport Security Administration (TSA), the bidder or contractor must submit relevant approval document to client for reference. Non-TSA approved will not be consider,
- c) The ETD should have a non-membrane, high temperature; open atmosphere Dual tube ion mobility Spectrometer base system, allowing two optimized temperature settings for narcotics for narcotics and explosive substance detection.
- d) The ETD shall not pose any hazard substance to the environment. The equipment should be safe to handle and be free from any hazards to the operator.
- e) Operation should not be affected by electro magnetic interference of other electronic/electrical devices.
- f) Should be easily installed and must design to be the low maintenance type and with minimum future service. Bidder and contractor are required to provide a statement to confirm the product failure rate, MTBF etc.
- g) Should be easy of use and have color display, remote monitoring capable, software upgrades can be easily,
- h) Start up time and ready to be used should be less than 15 minutes is preferable. Analysis Time must less or equal 8 seconds. Relevant information must be provided.
- i) Lightweight (approx.12kg), 12 VDC power outlets available
- j) one-hour battery allows instrument relocation without having to shut it off, eliminating warm-up time can be advised. *k) Automated calibration helps assure operational accuracy. Automatically saves test result, preventing deletions.*
- l) Should be Chinese (preferable language) or English
- m) The equipment must comply with the requirements of current health and safety legislation and be approved and licensed for use by the appropriate authority of Macao. The contractor shall be responsible for obtaining the statutory approval.
- n) Data transfer capable.
- o) Detection modes should be explosive and narcotics.

4.4.2 Detection requirement

- a) No radioactive source should be used for detection. Should be able to function both on the vapor and particle mode.
- b) Should be capable to detect all type of explosives of various groups – commercial, military and plastic explosives.

- c) Should be able to detect improvised explosive materials including inorganic nitrates
- d) Should be able to detect the nuclear residue/materials.
- e) System should not respond to odour of non explosive substances.
- f) It should have operating temperature of -10 to +55 degree Celsius.
- g) False alarm rate should be less than 1%.
- h) Both visual and audio alarm signal.

4.4.3 Electrical Supply System

- a) The detectors shall be designed for connection to a 230V +/- 5%, 50Hz, Single phase, three wires (phase, neutral and earth) power supply and equipped with a suitable and efficient rechargeable battery battery.
- b) On 230V AC supply equipment should work continuously. On battery, continues operation should give more than 3 hours of operation.

4.4.4 Brochures

The bidder should clearly specify the make and model no. of the items offered and submits the original product brochures.

4.4.5 Warranty, Maintenance and Annual Maintenance Contract

- a) The unit design must be of the low maintenance type and with minimum future service. A statement confirming this is required from the bidder.
- b) An overall design of modular type is preferred.
- c) Electronic modules must be easily exchanged.
- d) All sub-assemblies in the unit must be of such a design that, maintenance and repair can be carried out by single person.
- e) Spare parts must be locally/regionally stocked and availability guaranteed for a ten-year period, starting from the date of delivery. The contractor should have well established service support centre in Macao such that emergency maintenance can be carried out efficiently, a service level agreement will be established between contractor and client for counting the several of service quality.
- f) The successful contractor shall guarantee and service the complete unit for a period of twenty four (24) months from the date of delivery to site, and successful commissioning of the unit.
- g) During the period of guarantee (**the 24 months**), the contractor shall, at his own expense, carry out all necessary reactive and preventive maintenance (on regularly basis) and repair work, including material and labor, (excluding work required due to damage by others) in order to maintain the unit in a good working condition. The maintenance plan shall be submitted to CAM for approval prior to implementation.
- h) The successful contractor shall, during the period of guarantee, repair the unit to the satisfaction of CAM or its representative(s), within 24 hours after he has been notified that the unit is not operating.
- i) After the lapse of the initial twenty four-month period of servicing, the contractor may be required to enter into a service agreement with CAM, for further period. This agreement may subsequently be renewed for yearly basis.
- j) The contractor shall thoroughly train and instruct the operators, designated by CAM in the operation of the unit. The training should allow at least 6 persons with maximum 10persons.

4.4.5 Testing and manual

- a) The system shall be set at the recommended setting to detect the operational test piece and pass the statutory tests for obtaining approval.
- b) Three complete sets of manuals (together with CD copy), each with the following information shall be handed over to CAM when the unit is delivered to site:
 - Operating instructions
 - Technical description with diagrams and instructions for maintenance and repairs.

Section-6 Bill of Quantities(“BQ”)

The quantity specified shall be subject to change and final confirmation from CAM prior to start of procurement

Items	Quantity	Unit price	Amount (MOP\$)
Part 1) Security X-ray machine			
a) Cabin baggage X-ray machine	9 sets		
Part 2) Metal Detectors			
a)Walk through metal detector	1 set		
b) Handheld metal detector one extract battery must be provided.	1 set		
Part 3) Desk Top Explosive Trace Detector(ETD)			
Part 4) Operation &Maintenance training include necessary training manual and materials of the all of aforesaid machines			
Part 5) X-ray combine test pieces			
Part 6) One year initial stock of spare part must be provided			
part 7) calibration kit if necessary for your proposed particular model. (must be proposed by contractor)			
The price of abovementioned must include the purchase, supply, transportation, delivery, storage, import, tax, insurance, miscellaneous expense, installation, removal and deposal, testing and commissioning, Operations and Maintenance training and comprehensive maintenance.			
Lump Sum			

Optional Items

Items	Quantity	Unit price	Amount (MOP\$)
Additional warranty comprehensive annual maintenance service for 5 years, covering the entire new X-ray machine, ETDs and related metal detectors	5 years		

Tender Document for Procurement of Security Screening Equipment at MIA (RFQ:151)
Statement of Project Requirements

Cabin Baggage X-ray Machine (Bidder must provide the following technical information for client evaluation)

Brand:	
Model:	
Description of common features	
Description of display and control elements	
Feeder and discharge roller conveyor loading capacity, roller and conveyor speed.	
Certification (TSA checkpoint qualified etc.)	
Resolution of display image / size of display of full screen,	
Steel Penetration capability (mm)	
Resolution of wire detectability (AWG(mm))	
X-ray dose	
Duty cycle (warm-up procedure required time)	
X-ray Generator: Anode voltage and cooling technique.	
Beam direction	
Grey levels stored	
Image presentation colour	
Image evaluation function (zooming of screened times)	
Specification of display monitor	
Computer configuration	
Network enable for workstation remote-site check, print, data storage.	
Total Power consumption of machine	
Noise level during machine operation	

Tender Document for Procurement of Security Screening Equipment at MIA (RFQ:151)
Statement of Project Requirements

Hand Held Metal Detector (Bidder must provide the following technical information for client evaluation)

Brand:	
Model:	
Weight	
Dimensions	
Operating Temperatures	
Power Supply	
Weather proofing/ foreign object protection standards (IP value, standard, IEC standard)	
Detection Range	
Alarm capability (sound and light)	
Resistance to electromagnetic interferences	
recharging time	
Continuous Operating time/per charge	
Warm-up Time	
Calibrating (self-calibrating)	

Walk Through Metal Detector (Bidder must provide the following technical information for client evaluation)






Brand:	
Model:	
Common features	
Dimensions	
Operating Temperatures	
Input voltage	
Weather proofing/ foreign object protection standards (IP value, standard, IEC standard)	
Detection Range	
Random Alarm capability programmable	
Resistance to electromagnetic interferences	
Tamper- Proof (key lock, access code etc.)	
Briefly description on Installation requirement and testing standard	

Tender Document for Procurement of Security Screening Equipment at MIA (RFQ:151)
Statement of Project Requirements




Desk Top Explosive Trace Detector (Bidder must provide the following technical information for client evaluation)

Operating Modes	
Explosive Detectable Material	
Narcotics Detectable Material	
Sensitivity detecting range in picogram for Explosive	
Sensitivity detecting range in pictogram for Narcotics	
Analysis Time (seconds)	
Warm-up Time	
Input Voltage	
Display size	
Weight	
Dimensions	
Printer	
Operating Temperature Range	

Section-7 Replacement Information for X-ray machine and Corresponding Location

No.	Type of Machine	Location	Exiting Equipment Photos
Cabin Baggage X-ray Machine			
1	Cabin baggage X-ray machine	Arrival staff channel	
2	Cabin baggage X-ray machine	Cargo staff channel	
3	Cabin baggage X-ray machine	Departure middle staff channel	
4	Cabin baggage X-ray machine	Departure North staff channel	
5	Cabin baggage X-ray machine	Departure South staff channel	

**Tender Document for Procurement of Security Screening Equipment at MIA (RFQ:151)
Statement of Project Requirements**

6	Cabin baggage X-ray machine	Hangar staff channel	
7	Cabin baggage X-ray machine	Gate no.2 staff channel	
8	Cabin baggage X-ray machine	Existing VIP Lounge	
9	Cabin baggage X-ray machine	Arrival Level of New VIP Building	N/A
Hand Held Metal Detectors			
1	Hand Held Metal Detector	Arrival Level of New VIP Building	N/A
Walk Through Metal Detectors			
1	Walk Through Metal Detector	Arrival Level of New VIP Building	N/A

Tender Document for Procurement of Security Screening Equipment at MIA (RFQ:151)
Statement of Project Requirements

New Desktop Explosive Trace Detectors(ETD)			
1	Desktop Explosive Trace Detector	New Cargo Building	N/A
2	Desktop Explosive Trace Detector	Menzies Cargo Building	N/A

-END-

Section 8 - Site Rule

SITE RULES

MACAU INTERNATIONAL AIRPORT SITE RULES

**THIS DOCUMENT APPLIES TO ALL
CONTRACTORS, SUB CONTRACTORS, TRADESPERSONS, & AIRPORT
STAFF**

I/We.....
(Contractor) has read and understands the enclosed rules and agrees to
comply therewith for the duration of any work performed at the work site.

Company Name:
Representative Name:
Title:
Signed:
Date:

I/We.....
(Supervision Company) has read and understands the enclosed rules and
agrees to assure the above contractor comply therewith for the duration of any
work performed at the work site.

Company Name:
Representative Name:
Title:
Signed:
Date:

**AFTER READING THIS DOCUMENT
PLEASE COMPLETE AND RETURN THIS PAGE
TO OPERATIONS SAFETY COORDINATOR**

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1. INTRODUCTION

It is the policy of Macau International Airport (MIA) that all works conducted by airport staffs / contractors / subcontractors are performed in accordance with work permit requirements, quality, safety and environmental legislation. Macau International Airport SITE RULES apply to airport staffs / contractors / subcontractor / tradesperson / partnership / corporation (here all designated as "Contractor") undertaking a project through on or more contracts, performing work at a site located on either airport or engaged to undertake work on the assets within the airport. The activities of the Contractor within the precincts of the Macau International Airport and within the meaning of these rules shall remain at all times under the control of Operations Service or appointed delegate.

General issues and concerns should be directed to:

Operations Safety Coordinator
Telephone: (853) 8898 2029
Fax: (853) 2886 1326
Email: opssafety@ada.com.mo

Engineering & Maintenance issues and concerns should be directed to:

Head of Engineering & Maintenance Division
Telephone: (853) 8898 2388
Fax: (853) 8898 2387
Email: josefernandes@ada.com.mo

Safety issues and concerns should be directed to:

Safety Manager
Telephone: (853) 8898 2508
Fax: (853) 8898 2506
Email: josemarcal@ada.com.mo

Security issues and concerns should be directed to:

Security Advisor
Telephone: (853) 2886 1111 ext. 3868
Fax: (853) 2886 1295
Email: albanoalbuquerque@ada.com.mo

2. REQUIREMENTS FOR COMMENCING WORK

The Contractor shall ensure that all works are carried out in compliance with the Site Rules. The Contractor as well as the Supervision Company must sign the front cover of the Site Rules and return to Operations Safety Coordinator acknowledging that they have read and understood the terms and conditions prior to commencing work.

The Contractor shall ensure that all workers participated in the work comply with all related Macau laws and regulations as well as the MIA Site Rules and the requirements stated in the concerned work permit.

The Contractor shall not be permitted to commence work in airside or in restricted area of Terminal until issued with a valid access card. Works in other landside areas do not require an access card.

The Contractor must inform Airport Supervisor immediately in case workers lost the access card. The Contractor **shall not commence work** on the site, including establishing materials and / or equipment on site until approval of a work permit or the issuance of the work coordination requisition (WCR). (See Appendix A for sample of the permit and requisition form).

The Contractor shall isolate the worksite at Passenger Terminal Building by physical barriers (refer to Appendix B) and lighted at night time if the worksite is outdoor.

Any works that require the use of equipment in airside that could be deemed a hazard to air navigation (i.e. cranes, scaffolding, poles, high machinery, etc.) must be marked with lights complying with specifications defined in ICAO Annex 14 during night time and will need a **NOTAM (Notice to Airmen)** issued. This is done through Airport Supervisor and **48 hours prior notice** is required. It is advisable to confirm the NOTAM is still in place prior to commencing work every day.

Any use of electrical / electronic equipment that may cause interference with navigation facilities or aircraft communications requires prior coordination with MIA Engineering & Maintenance Division & Airport Supervisor.

The effect of tall equipment, such as crane jibs in the movement area, especially near **ILS and radar area** will need to be considered, in conjunction with those responsible for electronic landing aids, and steps taken to reduce interference to the minimum. Construction equipment may have adverse effects on obstacle clearance limits and should be considered when working plans are formulated.

Note: Compliance with Site Rules will be audited from time to time. Non compliances identified induce the suspension of work until being rectified by the Contractor.

3. CONTRACTOR'S SAFETY PROGRAM

The Contractor should have a specific Construction Safety Program which goal is to foster a safety conscious environment to encourage its operatives, foreman and supervisor to actively

manage safety in order to limit losses from personal injuries and property damage. The ultimate objective is to achieve greater efficiency and reduce direct and indirect costs associated with losses and loss control. The effectiveness of the Construction Safety Program depends upon the active participation and cooperation of the Contractor's project managers, supervisors, and employees and the coordination of their efforts with the MIA in carrying out the following basic procedures:

1. **Detection.** Maintain a system of prompt detection and correction of unsafe practices and conditions.
2. **Education.** Establish and conduct an educational program to stimulate and maintain interest and cooperation of all employees. Education will be conducted through safety meetings, safety training programs, and the use of personal protective equipment and mechanical guards.
3. **Investigation.** All accidents, incidents and claims will be investigated to determine their causes and take reasonable corrective action when possible.
4. **Planning.** Plan all work to minimize the potential for personal injury, property damage, and loss of productive time.
5. **Regulations.** Comply with MSAR laws, regulations, industry standards, and Airport regulations and requirements.

4. ACCIDENT PREVENTION

Prevention of Work Site Accidents by complying with some of the general safety requirements that relate to the activities on construction work sites is must that and Contractors have the responsibility to correct hazardous conditions and practices. When more than one Contractor is working within a given work site, any job Foreman shall have the authority to take action to prevent physical harm or significant property damage. If it is determined there is imminent danger, the job Foreman or designated Contractor's Safety Engineer or Contractor's Safety Manager shall:

1. Take immediate action to remove workers from the hazard and stabilize or stop work until corrective actions can be implemented to eliminate the hazard.
2. Immediately notify the Contractor's Safety Engineer or Contractor's Safety Manager, and others as identified in the Contractor's Construction Safety Plan of the condition.
3. Identify and implement corrective action to eliminate the hazard. Notify the proper emergency service personnel and Airport Supervisor if the danger cannot be promptly corrected and

could develop into an emergency condition.

4. Employees shall immediately report any condition suspected to be unsafe or unhealthy to their job Foreman, Contractor's Safety Manager, or Contractor's Safety Engineer. If there is no resolution of the concern at that level, the employee shall report the concern to the Project Supervisor Company if any or the Safety Consultant.
5. When any condition has been determined to constitute a safety hazard, work will not continue until the danger is corrected, guarded, or removed from the work site.

5. ACCIDENT / INCIDENT AND REPORTING

Any damages to facilities likely to affect the air traffic control services or the safety of aircraft shall immediately report to Control Tower without delay.

All accidents and incidents must be reported to the Airport Supervisor immediately. A written preliminary report must be provided within **24 hours** and a full report within **72 hours** to Operations Safety Coordinator. Unsafe conditions or practices must be identified and corrective action must be implemented and approved by Operations Safety Coordinator before work continues.

6. SITE ESTABLISHMENT

6.1 Environmental Requirements

To preserve the local environment around the site of works and prevent contamination, all of the following items need to be noted and complied with before and during the works.

1. No oil changing or servicing of vehicles or construction machinery is to be carried out on site.
2. No animal is allowed in the work site.
3. No vehicles or construction machinery are to be washed on site.
4. All vehicles entering and exiting the site shall do so at one only designated driveway.
5. If the entry point is over an existing concrete curb, heavy timbers or the like should be placed in the road gutter for easier entry. Clay, rocks, crushed rock or sand shall not be placed in the gutter to act as a vehicle ramp.
6. All site water taps shall be maintained in a leak free condition and shall only be turned on when water is actually required.
7. All the materials, soil and construction rubbish should be put inside bags, containers or well covered, especially at Apron & Runway area to avoid FOD, no matter the time of transportation.
8. The Contractor shall not store any new materials, rubbish, or stock piles of earth anywhere outside boundary of the site unless at a MIA designated site. Soil and building rubble is not to be stored close to airport drains. Any fill imported which is found to be contaminated will be

removed by the airport at the expense of the Contractor.

6.2 Worksite Access Control

1. Workers can only mobilize within authorized area according to the approved access card.
2. If necessary, any workers or equipment mobilize into sensitive and critical area of movement area must obtain prior permission from Control Tower / Airport Supervisor.
3. Workers must follow the route defined in Work Permit or by the assigned Work Safety Officer.
4. Workers can only move and work within designated area. The Contractor must inform AOCC if on apron area, AOCC and Control Tower on maneuvering area or OPS Safety Coordinator at the Passenger Terminal Building and curb the start and work completion.
5. Any drivers or vehicles that do not possess valid access card with "D" endorsement or vehicle access label are required to be escorted by Follow-Me vehicle at all time during working period at the movement area.

7. PROTECTION AND REDUCTION OF INCONVENIENCE TO PUBLIC OCCUPANTS

The Contractor shall work in such a manner so as to avoid and reduce the inconvenience to persons occupying and visiting MIA.

Work shall not be performed in any area occupied or in public use unless specifically permitted by the contract or in writing from the Airport, or other designated party.

The Contractor shall provide adequate visibility and protection when public use of work areas must be maintained on sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways. Appropriate barriers (i.e., guardrails, barricades, temporary fences or partitions, overhead protection, shields) shall be secured against accidental displacement and maintained in place except where temporary removal is necessary to perform the work. When a barricade is temporarily removed, a guard shall be placed at all openings.

Barricades must be used where sidewalk sheds, fences, or guardrails are not required. Such barricades must guard against harmful radioactive rays or particles, flying materials, falling or moving materials and equipment, hot or poisonous materials, explosives and explosive atmospheres, flammable or toxic liquids and gases, open flame, energized electric circuits, or other harmful exposures

Sidewalks, building entrances, lobbies, corridors, aisles, doors, or exits in use by the public shall be clear of obstructions to permit safe ingress and egress of the public at all times.

Guardrails shall be provided on both sides of vehicular and pedestrian bridges, ramps, runways, and platforms.

Sidewalk sheds, canopies, catch platforms, and appropriate fencing shall be provided when it is necessary to safely maintain public pedestrian traffic adjacent to the erection, demolition, or structural alteration of outside walls on any structure.

Appropriate warnings, signs and instructional safety signs shall be conspicuously posted where necessary. In addition, a properly certified flagger shall control the moving of motorized equipment in areas where the public might be endangered.

Appropriate safety signage should be displayed and site boundary delineated and protected to prevent any persons other than the workers accessing the work site.

Signs and lighting shall be placed at both ends of any public protection or obstructions at specific distances apart alongside such protection or obstructions to ensure alertness and awareness of public and workers accessing the work site. Warning signs and lights, including lanterns, torches, flares, and electric lights, meeting Airport requirements, shall be maintained from dusk to sunrise along the guardrails, barricades, temporary sidewalks, and at every obstruction to the public.

Contractor shall arrange the execution of works to minimize nuisance to the public and occupants of the MIA and to ensure the safety of occupied premises. The Contractor shall not deviate from the designated access route to work site without prior approval of the Airport Supervisor on the Movement area and Passenger Terminal Building. The contractor shall restrict access of the public to the work site to ensure public safety.

See Appendix B for standard barrier used inside Passenger Terminal Building.

8. PERSONNEL REQUIREMENTS AND NONCOMPLIANCE

It is the Airport's intention to maintain a healthy and safe workplace. To succeed, all parties must be actively involved and maintain cooperation between all Contractors and their employees. Contractors are responsible for orienting employees on the specific safety rules that must be followed by all persons working on the project.

If the Airport Director is aware of any noncompliance with these safety requirements, or is advised of such noncompliance by Airport Supervisor, Operations Safety Coordinator or any Operations officer or by a governmental agency with the authority to enforce safety regulations, the following shall occur:

1. The Airport shall deny any claim or request from the Contractor for equitable adjustment for additional time or money on any suspend-work order issued under these circumstances.
2. The Airport will notify the Contractor of the noncompliance and of the corrective action required. This notice, when delivered to the Contractor or their representative at the work site, shall be deemed sufficient notice of noncompliance to implement corrective action immediately.
3. The Contractor will be required to remove at no cost any employee for nonperformance of his or her safety/security duties or piece of equipment deemed to be unsafe from airport property.

4. Work Suspension. If the Contractor fails or refuses to take corrective action within the specified time, Operations Service shall exercise the right to suspend work, stopping all or part of the work. The order will remain in effect until satisfactorily corrected.

The grounds for removal of any employee of the Contractor found to be violating the following work site and safety rules, or other Airport policies or procedures is subject to immediate removal from the work site. Disciplinary policies must be included in the Contractor's Safety Plan to address violations such as:

1. Any employee, who has been documented as having repeatedly violated the MSAR and Airport safety regulations on any Authority project, can be removed for cause.
2. No employee shall possess, use, or be under the influence of drugs or alcohol while on the project.
3. Fighting, gambling, or horseplay and unprofessional behavior will not be tolerated. Violators will be removed from the work site.
4. Carrying or possession of firearms, knives, clubs, or other weapons is strictly prohibited.
5. Contractor gross misconduct & inappropriate behavior as mentioned in section 25.

Any employee removed from an Authority construction project for safety violations or unsafe work practices cannot be hired to work on any other Airport project for a minimum of one year from the date of removal.

9. HOUSEKEEPING / STORAGE OF MATERIAL AND EQUIPMENT

Housekeeping within the Passenger Terminal Building and airside areas is of prime importance. The contractor shall leave the site tidy and organized at the end of each work period. The work site and surrounding area must be cleaned after daily completion of work.

All workers in the sterile area of the airport may utilize tools in their work area provided: 1) The tools are essential and necessary to their work. 2) Tools must be kept controlled at all times, and may not be left unattended. Knives are prohibited and may not be carried. 3) Tool boxes must be guarded and locked when not in use. No cartridge style nail guns, nor any tool that uses a cartridge or any explosive charge, shall be permitted on the job, unless authorized by Airport Operations Service / Security Advisor.

All equipment and material of works must be stored and secured properly in area defined in the work permit.

No materials and/or equipment shall be left unattended without prior approval of the Airport Supervisor on the Movement area and at Passenger Terminal Building. The Contractor shall be responsible for the security of any such materials and/or equipment within the airport perimeter. The storage of corrosive, toxic, flammable or radioactive materials shall not be permitted in MIA buildings at any time.

In other areas flammable goods storage will be according to the appropriate Macau laws and

regulations. The storage of large volumes of chemicals and fuels must be stored off sites.

10. REMOVAL OF RUBBISH AND SPILLS

The Contractor shall not accumulate waste and debris on site or in the airport perimeter. Gangways and work areas must be kept clear and in a clean and tidy condition. All food and drink containers and the like shall be deposited in closed rubbish bins and removed from site daily. The Contractor shall remove all refuse generated on the worksite each day. The Contractor is responsible to ensure the following items:

- On site waste bins used for construction wastes should be covered at the end of the day.
- Waste bins shall not be cleaned on site.
- Inspect bins for leaks and the surrounding area for evidence of leaks.
- Dispose of hazardous wastes using competent and licensed contractors.
- Concrete trucks and painting equipment are not to be washed out on site.
- Temporary toilets are to be emptied regularly and should be inspected for leaks.

10.1 Spill Prevention

The Contractor should have plans in place to cover the prevention, clean up and good environmental practices with regard to spills.

10.2 Spills Cleanup

The Contractor must clean up any oil spillage or chemical substances etc as soon as practicable and ensure that such substances are returned to the proper storage facilities after use. Under no circumstances should chemicals or oils etc. be allowed to pollute water courses, sewer and drains, and in the event of accidental occurrence, the matter must be reported to the Airport Supervisor immediately.

11. PERSONAL PROTECTIVE EQUIPMENT

All personnel shall be aware the danger of personal injury by ingestion in front or jet blast behind a running aircraft engine (indicated by flashing red lights on top and bottom of the aircraft fuselage). The drivers of truck carrying construction or working materials and gravel that could be sucked or projected by jet blast should be aware of the hazardous conditions that may happen if they do not respect the safety considerations.

All personnel undertaking work at the MIA movement area and baggage make up area are required to wear a High-Visibility vest.

Where long hair can become a safety hazard, it must be contained

The site supervisor is responsible to ensure all workers wear personal protective equipment suitable for that work, i.e. helmet, safety belt, ear protector, reflective jacket etc. Failure to comply with the site PPE requirements may result in the removal of the offending member from the site.

12. DOORS

Plant room doors are not to be chocked open, or left open or unlocked at any time whilst unattended. No fire or security door shall be wedged or chocked open at any time.

13. ISOLATION OF SERVICES

The Contractor shall provide **at least 2 working days advance notice** to the ADA Operations Safety Coordinator of the required isolation of any services who will in turns coordinated with ADA Engineering & Maintenance Division.

All works on Electrical Services should be isolated using the tag out procedure.

14. HOT WORKS

NO Hot Works may be carried out until a valid **Hot Works & Fire Isolation Permit** (See Appendix A for a sample of the permit) is obtained from the Operations Safety Coordinator **at least 2 working days advance notice** is required before works may be carried out. The Contractor is to note that welding operations are not permitted in all areas of the airport and issuance of Hot Works & Fire Isolation Permit will be subject to this consideration.

15. WORKING AT HEIGHTS - PREVENTION OF FALLS

Persons carrying out construction / maintenance activities at a height of 2 meters or more, may be exposed to the risk of death or injury from falling. Before working at heights, ensure that all potential hazards are identified and that appropriate controls are put in place to prevent falls. Incorrect use of ladders is one of the main causes of falls across all industry sectors. Ideally the contractor should provide a mobile scaffold to allow safe working at heights.

If there is a danger of materials falling whilst working at heights, ensure that a suitable barrier is erected directly below the work area and those appropriate signages are put up.

Ladders

A ladder must be placed on a firm footing and effectively secured to prevent outward or sideways movement. A ladder must be correctly positioned to an angle ration of 1:4 (1 [one] meter out for every 4 [four] meters of height).

Scaffolds

Scaffolds must be kept clear with no loose materials, rubbish or debris lying around. Access and egress ways must be kept clear at all times. Work platforms must be at least 610mm wide with non-skid floors and sound rigid footing. A standard guard rail and toe boards must be fitted on

scaffolds over 3 meters. Scaffolding with guardrail may be used as fall protection around the edge of a roof. Never use makeshift or defective scaffolds. Ensure that castors are in good condition. Do not throw materials or rubbish from scaffold decks. Unattended or incomplete scaffolds must have danger tags and warning sign attached at appropriate locations to prevent use.

Note: Prior any installation of high platform or scaffolding for work shall obtain permission at least 24 hours in advance from Airport Supervisor on the Movement area, Passenger Terminal Building and curb side.

16. COMPRESSED AIR

Compressed Air Pneumatic tools must be used with care. Ensure that safety pins are placed at connection points, or safety chains where provided, and air valves are turned off at the source, not by crimping hoses. This will reduce the potential for injury in the event of a failure of any of the couplings.

Always wear safety glasses or goggles when using compressed air.

Compressed air is NOT to be used for cleaning clothing, or for hosing away dust from within the workplace.

17. ELECTRICITY

Extension Leads – Flexible extension leads should not be joined together and they should be tagged, tested and safety switch protected. Extension leads must be kept off the ground and elevated above the work area. Keep extension leads away from metal surfaces and structures. No live works are to be undertaken if a suitable isolation is able to be performed to the connections. **All electrical works must be done in consultation with ADA Engineering & Maintenance Division.**

18. DANGEROUS / HAZARDOUS SUBSTANCES

In no circumstances dangerous/ radioactive substances shall be used. If the use of such substances cannot be prevented, prior approval must be obtained from the competent entities (e.g. ADA, DBA, etc.). Treatment, transportation and disposal shall be arranged in accordance with Macau laws and regulations.

The Contractor should take care when using hazardous substances. Follow instructions given by manufacturer concerning ventilation of the area and general use of these materials. **Make sure that the Material Safety Data Sheet (MSDS) and tools with material for treating leakage are readily available before using any hazardous substance.**

19. FIRE ALARM & HYDRANT SYSTEMS

Prior to undertaking any work which may produce smoke, fumes, dust or heat the Contractor shall ensure that the SMOKE DETECTION APPARATUS and Fire Alarm Systems are isolated by ADA. A Hot Work & Fire Isolation Permit must be obtained from the Operations Safety Coordinator prior to isolation of these systems. The Contractor shall provide **at least 2 working days advance notice** of the requirement to isolate Fire Alarm Systems.

Fire Alarm Systems must be reactivated immediately on completion of the work requiring the isolation and / or at the vacating of the sites.

20. FIRE EVACUATION PROCEDURES

The Contractor must familiarize themselves with the MIA fire evacuation procedures and the appropriate assembly points. They should discuss any problem, which could occur with the Operations Safety Coordinator. The Contractor must not obstruct any fire fighting equipment or fire exit and ensure that fire escape routes, fire service points are maintained free from obstruction at all times.

21. EMERGENCY/ADVERSE WEATHER AND CYCLONE PRECAUTIONS

The Contractor shall ensure that unfinished work, equipment, sheds, hoarding, materials and any other movable items on the site, are protected, stored, or secured to the extent necessary to ensure that in strong wind conditions they will not be a danger to persons or property because of collapse, movement or any other cause.

In situation of visibility lower than 800 meters, all works in the movement area or outdoor works at the Passenger Terminal Building and curb side shall be suspended.

In situation of AMBER or RED thunderstorm warning, Typhoon Signal No.3, strong wind (Black Ball Signal average wind speed over 20 knots), all outdoor works except those works inside a building shall be suspended.

During occurrence of any emergency arise or any special arrangement is communicated by Airport Supervisor at Movement area and Passenger Terminal Building or Work Safety Officer, work-in-progress should be suspended immediately.

22. SMOKING / BEVERAGES

Smoking is prohibited inside the airport except in smoking lounge at the Passenger Terminal Building.

Eating/Drinking is prohibited inside the movement area (including runway and taxiways) of the airport.

Drug taking and drinking of alcohol is forbidden before and during the work.

23. CEILING TILES AND HATCHES

Ceiling tiles removed and ceiling hatches opened during the course of work shall be replaced or closed whenever the site is to be unattended.

24. CALL OUTS

Specified Contractors are on call and are called in by ADA for problems occurring after working hours. Every Contractor called in by ADA outside normal working hours is to contact Airport Supervisor for work at Movement area and Passenger Terminal Building in person advising whether or not fault has been rectified or otherwise

25. GROSS MISCONDUCT & INAPPROPRIATE BEHAVIOUR

Any Contractor proved to have involved and/or engaged under any of the following items may be liable to instant cancellation of work permit and further criminal proceedings by MIA.

- (i) Unauthorized removal or interference with any protective device, unauthorized operation of any item or machine, plant or equipment.
- (ii) Damage, misuse or any interference with any item of fire fighting equipment.
- (iii) Unauthorized removal or defacing of any label, sign or warning device provided in the interest of safety, health and welfare.
- (iv) Misuse of any chemicals, flammable or hazardous substances or toxic materials.
- (v) Smoking outside the smoking lounge at the Passenger Terminal Building.
- (vi) Dangerous horseplay or playing practical jokes which could cause accidents.
- (vii) Making false statements or in any way deliberately interfering with evidence following an accident or dangerous occurrence.
- (viii) Misuse of compressed air or pneumatic equipment.
- (ix) Overloading of any lifting equipment or any company vehicle.
- (x) Being under the influence of intoxicating liquor, drugs or similar substances.
- (xi) Unauthorized use of mobile telephones at airside locations.
- (xii) Unauthorized use of any radio equipment at airside locations.
- (xiii) Using tools in the security sterile area that are not approved by ADA.
- (xiv) Failing to display an access card issued by MIA for an area in which a card is required.
- (xv) Failing to comply with any direction given by ADA.
- (xvi) Failing to comply with MIA Airside vehicle requirements.
- (xvii) Entering any part of the security controlled area without approval.
- (xviii) Using a vehicle without prior approval from Airport Supervisor.
- (xix) Firearms are not to be brought onto the airport site.
- (xx) Use of inappropriate behavior or language.
- (xxi) Working in movement area without wearing reflective vest.

(xxii) Work site and surrounding area are not cleaned after work.

26. NOISE MANAGEMENT

Works involving loud activities will be conducted in such a manner as to minimize the impacts of construction noise on the surrounding area. Consideration should be given to factors such as the timing of noisy construction activities (e.g. Pile driving and concrete cutting) will be restricted to between 9am and 21.00pm or where otherwise agreed. (Controlled by maximum permissible noise levels by time of day and week).

- The type of equipment used where possible should be selected for low noise emissions.
- Plant and vehicles used on airport are to be maintained in accordance with the manufacturers specifications, and more specifically will have the appropriate noise control equipment fitted and in a suitable condition.
- Noise standards must be controlled in the vicinity of passengers.

Note: Any works deemed to create high noise level shall obtain permission at least 24 hours in advance from Airport Supervisor in Movement area and Passenger Terminal Building and curb side.

27. AIR QUALITY

The aim of these guidelines is to minimize the impacts of construction works on air quality of the airport and surrounding areas.

During the dry season dust from construction sites is an area of concern requiring those responsible for the work to carry out the following dust control measures:

- Stockpiles of construction materials will be watered to prevent the generation of dust.
- All personnel spraying chemicals or paints at the airport shall wear appropriate personal protective equipment and shall ensure that over-spray are contained so as to not pose a hazard to the health of general public.

28. AS BUILT DRAWINGS

The Contractor must provide ADA Engineering & Maintenance Division with a set of surveyed, as-built drawings in an electronic format as specified by ADA E&M Division. Drawings must show building works and services.

29. HARRASMENT AND DISCRIMINATION

Harassment is any conduct which has the effect of interfering with another employee's work performance or creating an intimidating, hostile or offensive work environment. Harassment can be

- Sexual harassment
- Physical or mental abuse

- Racial or ethnic jokes or comments
- Teasing intended to upset or provoke an employee

It is important to recognize that behavior or comments that may not offend one person may be unwelcome or offensive to another person. By reading and understanding the above Harassment examples you consent to assuming full responsibility for any actions that are deemed unacceptable.

30. FIRE EXTINGUISHERS

- o All occupants of premises should be familiar with different types of fire extinguishers and their location.
- o Place extinguishers near where they may be needed, but not too close as fire may put extinguisher out of reach.
- o Extinguishers require regular maintenance. Check with supplier for details.
- o Ensure extinguishers are recharged after each use.
- o Report missing, defective or discharged fire extinguishers to whoever is responsible for these items.

31. FIRE PREVENTION

- o Ensure passageways and exits are not blocked by storage or waste.
- o Ensure that exits are not locked whilst people are working in the building.
- o Dispose of waste paper, packaging, old rags and other fire hazards.
- o Designate an employee to ensure that appliances (stove, kettles, etc) are switched off each night.
- o Wherever possible turn off computers and monitors each night.
- o Ensure that any cracked, frayed or broken electrical cord or plug is replaced immediately.
- o Ensure that there is plenty of air circulation space around heat producing equipment (e.g. photocopiers).
- o Do not run electrical leads or cords across doors or walkways, or pinch them behind or under furniture.
- o Do not overload power outlets or extension boards.

DO NOT TAKE ANY RISKS

APPENDIX A: WORK PERMIT, WORK COORDINATION REQUISITION, HOT WORK & FIRE ISOLATION PERMIT FORMS



**Operations Service
Work Permit**

Company Name:		Serial No.
Contact No.:	Fax No.:	
Applicant Name:	Site Supervisor Name:	
Contact No.:	Contact No.	
Supervision Company Name:		
Contact Person:	Contact No.:	Fax No.:
Detailed nature of work and location (<input type="checkbox"/> Maneuvering Area, <input type="checkbox"/> Apron, <input type="checkbox"/> Passenger Terminal, <input type="checkbox"/> Others)		
Work Period: From _____ to _____ Daily Schedule _____ to _____		
Access Route:		
Airport Operations Requirements:	Issuance of NOTAM	<input type="checkbox"/> Yes Nr: _____ <input type="checkbox"/> No
	Need of Trunk Mobile	<input type="checkbox"/> Yes Quantity ____ <input type="checkbox"/> No
	Talk Group :	_____ Call Sign: _____
	Need of Safety Officer	<input type="checkbox"/> Yes <input type="checkbox"/> No
	MAWP	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Need of Hot Work & Fire	
	Isolation Permit	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Need of Site Storage	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Need of Hoarding	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Need Marking and Lighting	<input type="checkbox"/> Yes <input type="checkbox"/> No
Work Restrictions: NO OUTDOOR WORK when RVR below 800m, typhoon signal 3 or strong wind signal is hoisted. Amber or RED thunderstorm warning is hoisted. All works performed shall comply with applicable Macao Legislation and rules in force in the airport and the subcontractor is liable to any damages to the airport properties for the work period as specified on this work permit.		
Site Supervisor shall contact the following entities before start of work and conclusion of work on daily basis. <input type="checkbox"/> Airport Supervisor 88982501/ 66833057, <input type="checkbox"/> AOCC 28861111 ext. 1111, <input type="checkbox"/> TCD 28861111 ext 4129, <input type="checkbox"/> Tower (Trunk Mobile Radio)/ 28860021, <input type="checkbox"/> Operations Safety Coordinator 88982029 / 66982991 <input type="checkbox"/> Terminal Management Supervisor 88982834 / 62969998		
Applicant Signature		Site Supervisor Signature
Date: ____/____/____		Date: ____/____/____
Work Permit distributed to:		<input type="checkbox"/> E&M, <input type="checkbox"/> SAD, <input type="checkbox"/> SAF, <input type="checkbox"/> ATC, <input type="checkbox"/> TMS, <input type="checkbox"/> AOCC, <input type="checkbox"/> Focus, <input type="checkbox"/> CTM <input type="checkbox"/> Contractor, <input type="checkbox"/> Supervision Company, <input type="checkbox"/> _____
Attachment distributed with work permit		<input type="checkbox"/> MIA Site Rules - Revision (____)

OP-OPS-11-01/0

Front Page of Work Permit.

**Operations Service
 Work Permit**

Serial No. _____

Safety Requirements:
SAF: _____ Signed: _____ Date: ___ / ___ / ___
Security Requirements:
SAD: _____ Signed: _____ Date: ___ / ___ / ___
ATC Requirements:
ATC: _____ Signed: _____ Date: ___ / ___ / ___
TMS Requirements:
TMS: _____ Signed: _____ Date: ___ / ___ / ___
Verified by Head of Operations Service Signed: _____ Date: ___ / ___ / ___
Verified by Engineering & Maintenance Division Signed: _____ Date: ___ / ___ / ___
Verified by Airport Operations Division Signed: _____ Date: ___ / ___ / ___
Approved by Airport Director Signed: _____ Date: ___ / ___ / ___
Date of work conclusion: ___ / ___ / ___

All times in local with date format dd/mmm/yyyy

OP-OPS-11-01/0

Back Page of Work Permit



Hot Work & Fire Isolation Permit				Permit No.			
1, Site Location: (<input type="checkbox"/> Maneuvering Area, <input type="checkbox"/> Apron, <input type="checkbox"/> Passenger Terminal, <input type="checkbox"/> Others_____)							
2, The hot work that is covered by this permit: _____							
3, Work location _____							
4, The equipment to be used: _____							
5, The fire fighting equipment to be laid out at worksite: _____							
6, Name of contractor performing the work: _____							
7, Site Supervisor:(Name:_____ Contact No._____)							
8, Supervision Company Name: _____ Contact No._____							
Have combustible materials been removed from the work area or made safe? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Have tanks, valves, vents and pipelines been blanked off or effectively isolated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Is ventilation adequate? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Is the fire equipment checked and laid out ready for use? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Is the wind direction satisfactory for hot work to be done? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Has the site of the hot work been isolated and roped off? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Is Airport RFFS been informed? (Name:_____) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Work Period: From			to	Daily Schedule			to
Isolation of Smoke Detectors / Sprinkler Systems.							
Request disable of smoke detector at above work location and schedule. <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Request disable of sprinkler system at above work location and schedule. <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A							
Site Supervisor Signature:_____ Date:____/____/____							
This hot work permit should be prominently displayed on the worksite							
SAFETY OFFICE APPROVAL							
The above-mentioned work is <input type="checkbox"/> approved <input type="checkbox"/> not approved							
Name: _____				Signature: _____			
Title: _____				Date: _____			
Copy of this permit is distributed to below entities							
<input type="checkbox"/> SAF , <input type="checkbox"/> RFFS , <input type="checkbox"/> E&M, <input type="checkbox"/> TCD , <input type="checkbox"/> AOCC , <input type="checkbox"/> TWR, <input type="checkbox"/> FOCUS, <input type="checkbox"/> TMS, <input type="checkbox"/> Supervision Company							
All times in local with date format dd/mmm/yyyy							

OP-OPS-11-02/0

Sample of Hot Work & Fire Isolation Permit



Operations Service

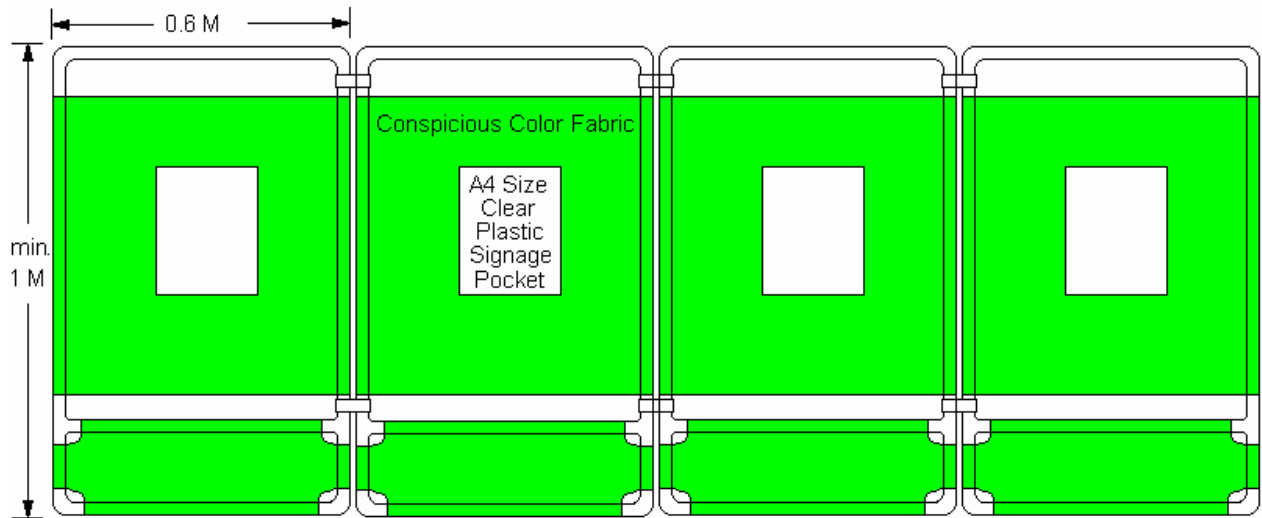
Work Coordination Requisition

Entity: _____	Serial No.: _____
Fax No.: _____	Referred Work Permit No: _____
Date / Time of work: _____	Location: _____
Description of works: <div style="text-align: center; font-size: 48px; color: lightgray; opacity: 0.5;">SAMPLE</div>	
Applicant : _____	Approved by: _____ <input type="checkbox"/> Airport Supervisor <input type="checkbox"/> OPS Safety Coordinator
Contact No.: _____	
<ul style="list-style-type: none"> • Applicant shall submit the requisition at least 6 hours prior to work commencement to Airport Supervisor during non office hours / OPS Safety Coordinator during office hours. • After approved, the applicant and relevant entities will receive a copy by fax or email. • For all urgent requests, please contact the Airport Supervisor by phone. 	
Contact No. Non Office Hours : Airport supervisor 66833057 / 88982501 Office Hours: OPS Safety Coordinator 66982991 / 88982029 AOC 28861111 ext. 1111 Fax: No. 28861326 Email: airportsupervisor@ada.com.mo opssafety@ada.com.mo	

OP-OPS-11-03/0

APPENDIX B: ISOLATION OF WORK SITE

Worksite isolation or closure of facilities inside Passenger Terminal Building shall use standard indoor barrier which could display notice and warning signage to the public as illustrated below.



Standard Indoor Barrier

The barrier shall be with minimum of 1 meter high and 0.6 meter wide for each partition. 4 partitions connected as a set. A clear plastic pocket on each partition to hold warning sign and notice for display to the public. 20 percent of the partition at the bottom shall be guarded to sustain debris and tools within the area.