

## ANNEX E

### XI. Qualification Requirements for Key Personnel:

No.	Position Title	Required Qualifications
<b>International/Foreign Key Experts</b>		
1	IC Leader	<p><b>1. Qualifications</b></p> <ul style="list-style-type: none"> <li>a. Must have bachelor's degree</li> <li>b. Must have degree- whether bachelor's, master's, or doctorate, in either:               <ul style="list-style-type: none"> <li>(i) Any engineering field</li> <li>(ii) Architecture</li> </ul> </li> <li>c. Must have either:               <ul style="list-style-type: none"> <li>(i) Philippine Professional Regulatory Commission license to practice as an engineer or architect, valid as of date of submission of Qualification Documents</li> <li>(ii) Equivalent credential in the country where the proposed person practices, valid as of date of submission of Qualification Documents.</li> </ul> </li> <li>d. Must have at least 15 years work experience</li> </ul> <p><b>2. Similar / Related Project Experience:</b></p> <ul style="list-style-type: none"> <li>a. The proposed expert must have completed at least three projects.</li> <li>b. Involved one of the following for an infrastructure project with a value of at least P 2 billion or US\$ 36,000,000 or its equivalent:               <ul style="list-style-type: none"> <li>(i) Leading a project team responsible for design management</li> <li>(ii) Leading a project team responsible for design review</li> <li>(iii) Leading a project team responsible for project management</li> <li>(iv) Leading a project responsible for project supervision leadership</li> </ul> </li> <li>c. Leadership role had a duration of at least six months</li> </ul>
2	Leader, MIOW Duties	<p><b>1. Qualifications</b></p> <p>Must fulfill <b>ALL</b> of the following.</p> <ul style="list-style-type: none"> <li>a. Must have bachelor's degree</li> <li>b. Must have degree- whether bachelor's, master's, or doctorate, in either:               <ul style="list-style-type: none"> <li>(i) Any engineering field</li> <li>(ii) Architecture</li> </ul> </li> <li>c. Must have either:</li> </ul>

		<ul style="list-style-type: none"> <li>(i) Philippine Professional Regulatory Commission license to practice as an engineer or architect, valid as of date of submission of Qualification Documents</li> <li>(ii) Equivalent credential in the country where the proposed person practices, valid as of date of submission of Qualification Documents.</li> </ul> <p>d. Must have at least 15 years work experience</p> <p><b>2. Similar / Related Project Experience:</b></p> <p>The proposed person must have completed projects which fulfill the requirements below for at least five airports in at least three countries:</p> <ul style="list-style-type: none"> <li>a. The airport project was completed in the ten year period before the date of submission of eligibility documents.</li> <li>b. The proposed person had one of the following roles: <ul style="list-style-type: none"> <li>a. Design</li> <li>b. Design Management</li> <li>c. Design Review</li> <li>d. Project Management</li> <li>e. Project Supervision</li> </ul> </li> <li>c. The proposed person's role had a duration of at least six months</li> </ul>
3	Leader, CW Duties	<p><b>1. Qualifications</b></p> <p>Must fulfill <b>ALL</b> of the following (either a or b)</p> <ul style="list-style-type: none"> <li>a. All of the following: <ul style="list-style-type: none"> <li>(i) Bachelor's degree in one of the following: <ul style="list-style-type: none"> <li>1) Information technology</li> <li>2) Electronic Systems</li> <li>3) A related engineering field</li> </ul> </li> <li>(ii) At least fifteen years experience in managing or delivering complex CNS/ATM engineering implementation</li> <li>(iii) As part of the fifteen years experience: five years at a supervisory or managerial position, full time, with at least one of the following: <ul style="list-style-type: none"> <li>1) A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights;</li> <li>2) A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> <li>3) An international CNS/ATM consultancy company with five or more contracts in the past ten years involving the specification, procurement, integration, testing and commissioning and/or certification of any of the following list of systems:</li> </ul> </li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>1) Control Tower Systems</li> <li>2) Digital Remote Towers</li> <li>3) EFSS</li> <li>4) AMAN</li> <li>5) A-SMGCS (Multilateration system)</li> <li>6) A-SMGCS (SMR)</li> <li>7) VCSS</li> </ul> <p>(iv) A CNS/ATM system manufacturer who has supplied to either of:</p> <ul style="list-style-type: none"> <li>i A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights; or</li> <li>ii A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> </ul> <p>b. All of the following:</p> <ul style="list-style-type: none"> <li>(i) One of the following: <ul style="list-style-type: none"> <li>(a) Has a valid Air Traffic Control License issued by an ICAO member state</li> <li>(b) Had an Air Traffic Control License issued by an ICAO member state for a period of two years in the last five years, both before the date of submission of Qualification Documents.</li> </ul> </li> <li>(ii) At least fifteen years' experience in managing/delivering complex ATM-related projects aimed at delivering changes to ATC procedures for ATC tower operations and/or approach/terminal airspace</li> <li>(iii) As part of the fifteen years' experience: five years in a supervisory or managerial position, full time, with at least one of the following: <ul style="list-style-type: none"> <li>(a) A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights</li> <li>(b) A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> <li>(c) an international CNS/ATM consultant that has conducted air traffic management related studies in support of either: <ul style="list-style-type: none"> <li>(i) A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights</li> <li>(ii) A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> </ul> </li> </ul> </li> </ul> <p><b>2. Similar / Related Project Experience</b></p>
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		<p>The proposed person must have at least five years of experience in a supervisory or managerial position with any of the following:</p> <ol style="list-style-type: none"> <li>1) A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights;</li> <li>2) A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> <li>3) An international CNS/ATM consultancy company with five or more contracts in the past ten years involving the specification, procurement, integration, testing and commissioning and/or certification of any of the following list of systems: <ol style="list-style-type: none"> <li>(i) Control Tower Systems</li> <li>(ii) Digital Remote Towers</li> <li>(iii) EFSS</li> <li>(iv) AMAN</li> <li>(v) A-SMGCS (Multilateration system)</li> <li>(vi) A-SMGCS (SMR)</li> <li>(vii) VCSS</li> </ol> </li> <li>4) A CNS/ATM system manufacturer who has supplied to either of: <ol style="list-style-type: none"> <li>(i) A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights; or</li> <li>(ii) A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> </ol> </li> </ol>
4	Leader, O&M Duties	<p><b>1. Qualifications</b></p> <p>Must fulfill <b>all</b> of the following:</p> <ol style="list-style-type: none"> <li>a. Bachelor's Degree in any field</li> <li>b. Fifteen years experience in monitoring, planning, or reviewing the operational performance of airports or landside, terminal or airside operations</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <p>Either of the following:</p> <ol style="list-style-type: none"> <li>a. The proposed person has completed at least five projects in two countries which fulfil the following requirements: <ol style="list-style-type: none"> <li>(i) The airport project was completed in the ten year period before the date of submission of Qualification Documents</li> <li>(ii) The proposed person had one of the following roles on the airport project: <ol style="list-style-type: none"> <li>1) Airport planning</li> <li>2) Operational Readiness</li> <li>3) Operations Reviews</li> </ol> </li> <li>(iii) The Leader, O&amp;M duties role had a duration of at least six months.</li> </ol> </li> </ol>

		b. The proposed person has worked in a senior leadership position in airport operations for at least five years.
5	Multi-Disciplinary Engineering Peer Reviewer	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a university degree in architecture or engineering field,</li> <li>2. Must be a licensed or chartered engineer or architect</li> <li>3. Must have at least 15 years' experience.</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. Either of the following: <ol style="list-style-type: none"> <li>a. The proposed person should have undertaken airport engineering design projects in at least five airports in at least two countries in the 10 years before Eligibility Documents Submission Date</li> <li>b. The proposed person should have held a leadership position or positions in airport engineering or design of airport assets for at least five years.</li> </ol> </li> </ol>
6	Baggage Engineering Peer Reviewer	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a university degree in architecture or engineering field,</li> <li>2. Must be a licensed or chartered engineer or architect</li> <li>3. Must have at least 15 years' experience</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. The proposed person should have worked as engineer or baggage system specialist in at least three airport baggage system refurbishment or upgrade projects in at least two countries, completed in the ten years before eligibility documents submission date.</li> </ol>
7	IT/Systems Engineering Peer Reviewer	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a university degree in architecture or engineering field,</li> <li>2. Must be a licensed or chartered engineer or architect</li> <li>3. Must have at least 15 years' experience</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. Either of the following: <ol style="list-style-type: none"> <li>a. The proposed person must have undertaken IT or systems design projects in at least five airports in at least two countries in the ten years before Eligibility Documents Submission Date.</li> </ol> </li> </ol>

		b. The proposed person must have worked in a leadership position in airport or IT systems or design of airport or IT systems for at least five years.
8	Airport Planning Specialist	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a bachelor's degree</li> <li>2. Must have at least 10 years experience in total.</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>3. Must have demonstrated experience in planning or operational specification of airport facilities or the development of airport masterplans in at least five airports in at least three countries.</li> </ol>
9	Traffic Forecasting Specialist	<p><b>1. General Qualifications</b></p> <p>Must fulfill <b>all</b> of the following:</p> <ol style="list-style-type: none"> <li>1. Must have a bachelor's degree in a numerate subject such as engineering, mathematics, finance, accounting</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>2. Must have forecast aviation traffic for at least five airports for at least five years in the ten years prior to Bid Submission Date.</li> </ol>
10	CNS/ATM System Specialist	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a bachelor's degree in one of the following: information technology, electronic systems or related engineering field.</li> <li>2. Must have at least 15 years experience in managing/delivering complex CNS/ATM engineering implementations</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>3. Must have five years of experience in a supervisory or managerial position, full time, with any of the following: <ol style="list-style-type: none"> <li>a. A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights;</li> <li>b. A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> <li>c. An international CNS/ATM consultancy company with five or more contracts in the past ten years involving the specification, procurement, integration, testing and commissioning and/or certification of any of the following list of systems:</li> </ol> </li> </ol>

		<ul style="list-style-type: none"> <li>(i) Control Tower Systems</li> <li>(ii) Digital Remote Towers</li> <li>(iii) EFSS</li> <li>(iv) AMAN</li> <li>(v) A-SMGCS (Multilateration system)</li> <li>(vi) A-SMGCS (SMR)</li> <li>(vii) VCSS</li> </ul> <p>d. A CNS/ATM system manufacturer who has supplied to either of:</p> <ul style="list-style-type: none"> <li>(i) A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights; or</li> <li>(ii) A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> </ul>
11	Air Traffic Management Specialist	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must fulfill any of the following: <ul style="list-style-type: none"> <li>a. Have a bachelor’s degree in information technology, electronic systems, or related engineering field</li> <li>b. Have a valid Air Traffic Control License issued by an ICAO member state as of the Eligibility Documents Submission Date</li> <li>c. Have had an Air Traffic Control License issued by an ICAO member state for a period of two years in the last five years before the Eligibility Documents Submission Date</li> </ul> </li> <li>2. Must have at least 15 years experience in managing/delivering complex CNS/ATM engineering implementations</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>3. Must have at least five years of experience in a supervisory or managerial position, full time, with any of the following: <ul style="list-style-type: none"> <li>a. A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights;</li> <li>b. A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> <li>c. An international CNS/ATM consultancy company with five or more contracts in the past ten years involving the specification, procurement, integration, testing and commissioning and/or certification of any of the following list of systems: <ul style="list-style-type: none"> <li>(i) Control Tower Systems</li> <li>(ii) Digital Remote Towers</li> <li>(iii) EFSS</li> </ul> </li> </ul> </li> </ol>

		<ul style="list-style-type: none"> <li>(iv) AMAN</li> <li>(v) A-SMGCS (Multilateration system)</li> <li>(vi) A-SMGCS (SMR)</li> <li>(vii) VCSS</li> </ul> <p>d. A CNS/ATM system manufacturer who has supplied to either of:</p> <ul style="list-style-type: none"> <li>(i) A Civilian Air Navigation Service Provider for a country with annual traffic of at least one million flights; or</li> <li>(ii) A Civilian Air Navigation Service Provider providing a service for at least five airports with at least 200,000 flights per year for each airport.</li> </ul>
	Airport Security Specialist	<p><b>1. General Qualifications</b></p> <p>1. Must have a bachelor's degree in relevant discipline</p> <p><b>2. Similar / Related Project Experience:</b></p> <p>2. Must have at least five years of experience undertaking management of the security compliance function at an airport handling international and domestic traffic, and / or acted as an advisor to airports, governments and regulators on aviation security matters</p>
13	CAPEX Specialist aka Quantity Surveyor / Cost Engineer	<p><b>1. General Qualifications</b></p> <p>1. Must have a bachelor's degree in quantity surveying, engineering, accounting, or construction management.</p> <p>2. Must have at least 15 years' experience</p> <p><b>2. Similar / Related Project Experience:</b></p> <p>3. Must have had at least two assignments for which the proposed person worked as a Quantity Surveyor or Cost Engineer for an infrastructure project with a value of at least USD 36 million.</p>
14	Airport Operations Specialist (International Staff)	<p><b>1. General Qualifications</b></p> <p>1. Must have a bachelor's degree.</p> <p>2. Must have at least 10 years experience in total.</p> <p><b>2. Similar / Related Project Experience:</b></p> <p>3. Must have at least five years experience in airport operations.</p>
15	Opex and Revenue Specialist	<p><b>1. General Qualifications</b></p> <p>1. Must have a bachelor's degree in accounting, business, commerce, or a related field.</p> <p>2. Must have at least 15 years experience in total.</p>



		<p><b>2. Similar / Related Project Experience:</b></p> <p>3. Must have worked for at least two airports in which any of the following conditions were fulfilled:</p> <ul style="list-style-type: none"> <li>a. Estimated capital cost of at least US\$ 200 million</li> <li>b. Estimated expansion cost of at least US\$ 200 million</li> <li>c. Terminal capacity of at least 10 million passengers per year</li> <li>d. Terminal area of at least 50,000 sqm</li> </ul>
<b>National/Local Experts</b>		
16	Civil Engineer	<p><b>1. General Qualifications</b></p> <ul style="list-style-type: none"> <li>1. Must have a bachelor's degree in civil or structural engineering</li> <li>2. Must have a valid PRC license in civil or structural engineering</li> <li>3. Must have at least 15 years' experience in total</li> </ul> <p><b>2. Similar / Related Project Experience:</b></p> <ul style="list-style-type: none"> <li>4. Must have had at least one assignment which fulfilled all of the following criteria <ul style="list-style-type: none"> <li>a. Assignment lasted at least one year</li> <li>b. The person worked as a civil or structural engineer</li> <li>c. The person was responsible for one of the following: <ul style="list-style-type: none"> <li>(i) Design Management</li> <li>(ii) Design Review</li> <li>(iii) Project Management</li> <li>(iv) Project Supervision</li> </ul> </li> <li>d. The assignment was for an infrastructure project with a value of at least <b>US\$ 15 million</b>.</li> </ul> </li> </ul>
17	Electrical Engineer	<p><b>1. General Qualifications</b></p> <ul style="list-style-type: none"> <li>1. Must have a bachelor's degree in electrical engineering</li> <li>2. Must have a valid PRC license in electrical engineering</li> <li>3. Must have at least 10 years' experience working as Electrical Engineer</li> </ul> <p><b>2. Similar / Related Project Experience:</b></p> <ul style="list-style-type: none"> <li>4. Must have had at least one assignments which fulfilled all of the following criteria <ul style="list-style-type: none"> <li>a. Assignment lasted at least one year</li> <li>b. The person worked as an electrical engineer</li> <li>c. The person was responsible for one of the following: <ul style="list-style-type: none"> <li>(i) Design Management</li> <li>(ii) Design Review</li> <li>(iii) Project Management</li> </ul> </li> </ul> </li> </ul>

		<p>(iv) Project Supervision</p> <p>d. The assignment was for an infrastructure project with a value of at least <b>US\$ 15 million</b></p>
18	Mechanical Engineer	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a bachelor's degree in mechanical engineering</li> <li>2. Must have a valid PRC license in mechanical engineering</li> <li>3. Must have at least 10 years' experience working as Mechanical Engineer</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. Must have had at least one assignment which fulfilled all of the following criteria: <ol style="list-style-type: none"> <li>a. Assignment lasted at least one year</li> <li>b. The person worked as a mechanical engineer</li> <li>c. The person was responsible for one of the following: <ol style="list-style-type: none"> <li>(i) Design Management</li> <li>(ii) Design Review</li> <li>(iii) Project Management</li> <li>(iv) Project Supervision</li> </ol> </li> <li>d. The assignment was for an infrastructure project with a value of at least <b>US\$ 15 million</b>.</li> </ol> </li> </ol>
19	System Engineer for IT and Communications Network	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a bachelor's degree in engineering</li> <li>2. Must have a valid PRC license in engineering</li> <li>3. Must have at least 10 years' experience working as Systems Engineer for IT and/or Communications Network</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. Must have had at least one assignment which fulfilled all of the following criteria <ol style="list-style-type: none"> <li>a. Assignment lasted at least one year</li> <li>b. The person worked as a Systems Engineer for IT and/or Communications Network</li> <li>c. The person was responsible for one of the following: <ol style="list-style-type: none"> <li>(i) Design Management</li> <li>(ii) Design Review</li> <li>(iii) Project Management</li> <li>(iv) Project Supervision</li> </ol> </li> <li>d. The assignment was for an infrastructure project with a value of at least <b>US\$ 15 million</b></li> </ol> </li> </ol> <p>The proposed person must have completed at least one such assignment.</p>

20	Quality Assurance/ Quality Control Engineer	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. must have a bachelor's degree in engineering</li> <li>2. must have a valid PRC license in engineering</li> <li>3. must have at least 10 years' experience working</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. Must have had at least one assignments involving either: <ol style="list-style-type: none"> <li>a. Reviewing QA/QC processes and procedures on an infrastructure project with a value of at least <b>US\$ 15 million</b></li> <li>b. Reviewing on site implementation of QA/QC on an infrastructure project with a value of at least <b>US\$ 15 million</b></li> </ol> </li> </ol>
21	Health & Safety Engineer	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a bachelor's degree in engineering</li> <li>2. Must have a valid PRC license in engineering</li> <li>3. Must have at least 10 years' experience in total</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. Must have had at least one assignment involving either: <ol style="list-style-type: none"> <li>a. reviewing Health and Safety processes and procedures for an infrastructure project with a value of at least <b>US\$ 15 million</b></li> <li>b. reviewing on site implementation of Health and Safety processes for an infrastructure project with a value of at least <b>US\$ 15 million</b></li> </ol> </li> </ol>
22	Environmental Compliance Engineer	<p><b>1. General Qualifications</b></p> <ol style="list-style-type: none"> <li>1. Must have a bachelor's degree in engineering</li> <li>2. Must have a valid PRC license in engineering</li> <li>3. Must have at least 10 years' experience in total</li> </ol> <p><b>2. Similar / Related Project Experience:</b></p> <ol style="list-style-type: none"> <li>4. Must have had at least one assignment involving either: <ol style="list-style-type: none"> <li>a. Reviewing environmental processes and procedures on an infrastructure project with a value of at least <b>US\$ 15 million</b></li> <li>b. Reviewing on site implementation of environmental processes and procedures on an infrastructure project with a value of at least <b>US\$ 15 million</b></li> </ol> </li> </ol>