



International Civil Aviation Organization

**SIXTEENTH MEETING OF THE
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND
METEOROLOGY SUB-GROUP (CNS/MET SG/16) OF APANPIRG**

Bangkok, Thailand, 23 – 27 July 2012

Agenda Item 19: Any other business

**ICAO ASSISTANCE IN THE ACQUISITION OF NEW OR
REPLACEMENT EQUIPMENT**

(Presented by ICAO Secretariat)

SUMMARY

This paper presents the ICAO Technical Co-operation Bureau's Procurement Process and how it could assist a State/Administration/Government Agency/Private Entity in its acquisition of aviation equipment to resolve safety related deficiencies. The major procurement at ICAO is divided into 4 phases. The ICAO procurement process offers Member States the flexibility of either a complete procurement service (from specification of the equipment through to its commissioning) or participation in specific stages of the procurement process. The nature of purchases already undertaken by ICAO TCB is varied and covers virtually all the main aviation-related disciplines.

This paper relates to –

Strategic Objectives

A: Safety - *Enhance global civil aviation safety*

C: Environmental Protection and Sustainable Development of Air Transport - *Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-17 Data link applications

GPI-19 Meteorological Systems

GPI-21 Navigation systems

GPI-22 Communication infrastructure

1. Introduction

1.1 WP/24 and WP/32 provides the CNS/MET SG/16 meeting with status of deficiencies in the MET and CNS fields. Assisting States in resolving the safety related deficiencies is one of the roles of the ICAO technical cooperation programme.

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1.2 This paper provides the reader with an insight into the ICAO Technical Co-operation Bureau's Procurement Process and role in relation to the development of procurement projects for Member States.

1.2 The overall objective of ICAO's Procurement activities is to ensure that procurement of equipment, supplies and services are effected in the best interests of the Organization and/or Assisted States. Procurement activities support the projects initiated and administered by the Technical Co-operation program in assisting Member States to implement ICAO Standards and Recommended Practices (SARPS).

1.3 Clearly, as with any procurement, the challenge remains to ensure technical, functional and performance compliance, as well as timely implementation of a project. As described hereafter, this is enabled thanks to the application of project management tools specifically developed for ICAO/TCB's procurement process based on the experience gained over the last fifty years and certified through ISO-9001 audits.

2. Discussion**2.1 The ICAO Procurement Process**

2.1.1 All major procurement at ICAO is divided into 4 phases:

- 1st phase – Pre-study whose main purpose is to define the requirements;
- 2nd phase - Preparation to conduct the tender process and select the supplier;
- 3rd phase - Execution wherein a Contract is placed with the selected supplier and the implementation of the Contract is closely monitored in terms of financial and technical obligations;
- 4th phase - Termination phase with assistance on after-sale services & warranty and assessment of customer satisfaction.

2.1.2 **Appendix A** describes the 4 procurement phases in detail. There are specific tollgates during the implementation of the procurement project where the status of the implementation is reviewed in collaboration with the Member State and formal decisions are taken to continue with the implementation of the project, such as system design, factory and site acceptance testing as well as progress review meetings. The objectives to be fulfilled for each phase are strictly monitored through ICAO's quality control system which is ISO 9001:2008 certified.

2.2 Procurement under the Civil Aviation Purchasing Service (CAPS)

2.2.1 The Civil Aviation Purchasing Service (CAPS) was established by ICAO in 1974 to assist countries in the procurement of civil aviation equipment and services. The assistance is provided in both the administrative aspects of a procurement and, when necessary, the technical aspects. Any Government/Administration/Government Agency/Private Entity may become a Member of CAPS by completing the registration form and the Memorandum of Understanding. CAPS is essentially a type of Trust Fund arrangement. The method of assessing ICAO administrative charges, utilizes a progressively reducing scale of charges, according to the value of the purchase involved. A feature of CAPS is the flexibility to offer a CAPS Member the option of either complete procurement services or participation in specific stages of the procurement process. The cost for each stage is developed and quoted to the CAPS Member once the tasks required of ICAO are clearly defined.

3. Conclusion - Benefits of Using ICAO Procurement Services

3.1 At the core of the above described procurement process is the flexibility to offer the Member States the options of either a complete procurement service (from specification of the equipment through to its commissioning) or participation in specific stages of the procurement process, e.g.

- i) preparation of specifications;
- ii) invitation of tenders, evaluation of tenders and preparation of recommendations;
- iii) negotiations and award of contract;
- iv) supervision of contract awarded by ICAO or awarded directly by the Member State, up to final acceptance.

3.2 Availing ICAO procurement assistance in equipment acquisition ensures compliance with ICAO requirements, Standards and Recommended Practices. All the equipment is procured in accordance with technical specifications that are prepared in strict compliance with ICAO norms and regulations. The technical and commercial evaluation of tender proposals by ICAO can be undertaken with the participation of the Member State or Civil Aviation entity if they so desire. The final decision to continue with the recommended supplier belongs ultimately to the Member State.

3.3 The nature of purchases already undertaken by ICAO TCB is varied (see **Appendix B** – Major procurement of aviation equipment undertaken by ICAO) and has included the procurement of flight and ATC radar simulation equipment, communication and navigation aids, air traffic control radar equipment and Complex, large-scale activities associated with complete airport development. This experience allows for the best market prices provided by manufacturers and other suppliers, with whom ICAO maintains negotiations regarding purchases worldwide in order to pass on the economy of scale in prices to benefit States.

3.4 Through its knowledge of pricing structures within the aviation industry, coupled with strict but fair contract conditions and close monitoring throughout the period of contract administration, ICAO has achieved significant economies in the price of contracts placed on behalf of Member States. More than one Member State has noted that the administrative overhead charge levied by ICAO to cover the cost of administering the procurement is more than offset by the savings which ICAO has been able to obtain on behalf of the Member State.

3.5 ICAO, as the specialized agency of the United Nations concerned with the planning and development of international civil aviation has specialists available to it who cover virtually all the main aviation-related disciplines. The expertise of the staff in providing advice to ensure the correct specification and proper selection of equipment has frequently proved invaluable in assisting Member States in the acquisition of new or replacement equipment.

4. Action by the Meeting

4.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) give due consideration to ICAO's varied experience and urge States/Administrations to consider utilizing the ICAO TCB Civil Aviation Purchasing Service (CAPS) in their procurement of civil aviation equipment and services to overcome safety deficiencies.

Appendix A - ICAO Procurement Process

All major procurement at ICAO is divided in 4 phases:

Phase 1: Pre-Study - What

The initial phase of the procurement entails the precise identification of the users' requirement. This stage requires a clear definition of the users' needs, whether it be for the procurement of services or equipment. When ICAO develops the technical specifications or is required to qualify a Member State's technical terms of reference, the main goal is to ensure that full compliance to ICAO Standards and Recommended Practices is adhered to, while avoiding over-specifications as it may increase the price. ICAO may field an Expert to support design configuration meetings and carry out detailed assessments of existing infrastructure if requested by the Member State.

Once all clear requirements have been defined as well as any local constraints identified, detailed technical specifications are developed, which represent the core of the procurement. The technical specifications developed by ICAO not only define the equipment performance and functional requirements that are being sought, but also include critical requirements such as: (i) Standards that require compliance to ICAO Standards and Recommended Practices, (ii) MTBF, Availability, Life-Cycle Support, (iii) Training, theoretical and operational, (iv) Acceptance Tests Protocol, both for factory and on-site requirements, and (v) Warranty and maintenance support. It should be noted that, in an aim to promote a transparent process, all the technical specifications developed by ICAO make allowances for any potential tenderer to present alternative proposal as long as equivalent or superior technical performance and functionality can be demonstrated. Evaluation criteria are also established during that phase to ensure transparent comparison of the merits of offers and identify the best match to the requirements while minimizing the risk of the selected supplier not being able to perform the contract satisfactorily.

This phase also includes the investigation of sources of supply and the establishment of a Bidders' List. Over the past 50 years, ICAO has developed a comprehensive database of aviation related suppliers. The equipment and services provided by each supplier are classified according to designated category codes and stored in a database. This system allows ICAO to quickly and easily identify registered suppliers of the equipment and/or services required by a project and enables ICAO/TCB to expeditiously prepare a Bidders' List of potential suppliers. The database is constantly updated with the new registration process recently put in place at ICAO which allows suppliers to self-register to the database through ICAO's website at www.icao.int/procurement, rendering the tender process public and transparent.

At the end of the Pre-study phase, the Member State obtains the technical specifications, evaluation criteria and budgetary estimate for the project and is given the option of continuing the procurement process.

Phase 2: Preparation - How

Once the technical premises have been established, this phase involves the formulation and issuance of the solicitation. Two main solicitation methods are used at ICAO depending on the threshold of the procurement: Request for Quotation (RFQ) and Sealed Tender (ST), the latter being a more formal tendering process.

Both types of solicitations are tendered through the ICAO tendering website and open to all suppliers. Tender packages consist of Technical Specifications with Evaluation Criteria combined with the following documentation:

- ICAO Terms and Conditions: The Terms and Conditions are standard contractual terms and conditions covering, amongst others, information and instructions on Damages, Indemnification, Termination, Settlement of Disputes and Equipment Title and Insurance, which would be applied in the case of an eventual contract award and which aim to ensure and safeguard the rights of the Member State under an eventual procurement.
- Instructions to Tenderers: The Instructions to Tenderers indicate the tender closing date, site visit information and general tender information to a potential bidder.
- Tender Form: The Tender Form requests that the bidder provide detailed tender pricing, complete technical proposal, contact and financial information, references and other information necessary for the full evaluation of the tender as well as for the vetting of the company.

Following the issuance of a tender, and prior to receiving the proposals, a site survey and Technical Meeting is usually conducted with the participation of all interested companies, ICAO and the End-User Representatives. Whereas the initial site visit by an ICAO expert described in Phase 1 was to determine the end-user requirements, during the bidding phase, this site survey, guided by ICAO, serves to ensure that no technical ambiguities are present and that all potential bidders have a clear understanding of the requirements and are able to assess any local constraints that may be present. A technical meeting in which ICAO addresses all technical queries from the tenderers is also held. The purpose of this is to further clarify any outstanding issues in order to ensure that all technical needs and requirements will be met if/when contract is awarded.

The tenderers are requested to upload their tenders through ICAO tendering website before the closing date. For further transparency and integrity, the sealed tender process involves that the proposals are received and opened by an entity external to the procurement office. ICAO's Procurement Section only receives proposals after their opening with fixed price and delivery time.

With the participation of the Member State or Civil Aviation entity if they so desire, ICAO then proceeds with the technical and commercial evaluation of proposals. To maintain fairness and transparency in the evaluation process, the proposals are evaluated as per the evaluation criteria defined at the time of the tender issuance and award is based on Best Value for Money (lowest priced fully compliant proposal for equipment, best weighted scoring (technical/financial) for selection of services). Company references/project experience and local support in the end-user's country are also considered during the evaluation, as well as the financial strength of the supplier which form part of the vetting of the company before contract award is recommended.

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The technical & commercial evaluation of tenders is then forwarded to the Member State. It is only when the Member State has confirmed its “no objection” to the result of the procurement process that a contract can be entered into with the recommended supplier, subject to funds availability. Decision to continue with the recommended supplier belongs to the Member State and constitutes a mandatory step to continue with the 3rd phase of the project.

It is worthwhile to mention that all major procurement at ICAO are subject to a review by an independent Contract’s committee which provides written advice on the acceptability of the procurement process undertaken, ensures that regulations, rules and procedures were followed, as well as confirms that funds for the contractual commitment are available. Approval of the Contract’s Board is also mandatory to continue with Phase 3 of the process.

Phase 3: Implementation – Do

Phase 3 starts with the Contract negotiation process, whose purpose is to ensure that all proper elements are in place to conclude a written agreement that protects the interest of the Member State and clearly and precisely reflects the offer made by the supplier in response to the solicitation. When required, negotiations have the potential to improve the procurement outcome by reducing uncertainties, risks and costs. When the Contract draft has been prepared to the satisfaction of the Member State and ICAO, a contract is signed by the appropriate authorized representatives of the supplier, ICAO and/or the Member State.

The procurement process at ICAO does not end when the purchase order or contract is issued. Contract administration is a vital part of the process. Administration of purchase orders/contracts encompasses the full realm of implementation and oversight, including the proactive monitoring of the performance and progress of the purchase order/contract’s key milestones such as

- Review of System Design Documentation and Design Review Meeting whose aim is to provide guidance and support to confirm final design configuration and implementation schedule;
- Factory Acceptance Test Support whose aim is to perform the factory acceptance testing and ensure that equipment is operating in accordance with tendered requirements and ICAO Standard and Recommended Practices;
- Training Review and Coordination to ensure that the training is adequate and carried out to end-user’s satisfaction;
- Documentation Preparation with the verification of insurance and shipping, payment, invoice;
- Site Acceptance Testing and Transfer of Title.

ICAO, with the full and active participation of the Member State/End-user, implements and oversees the contract implementation to constantly ensure that the supplier is in full compliance with the terms, specifications, conditions and provisions of the purchase order/contract and delivery occurs within the agreed implementation schedule.

Phase 4: Termination – Close

The close-out phase ensures that all contractual obligations have been met and that residual obligations such as warranties, guarantees and after-sales service and support are clearly defined in terms of responsibility, liability, procedures and timeframes. Contract close-out occurs when all contractual obligations have been fulfilled by the supplier.

Supplier performance reports are also filled out at that stage of the project, by ICAO and Member States/End-users. They are used to document performance of suppliers to eventually eliminate those with poor performances from ICAO's supplier roster. Member State satisfaction is also assessed during this last phase and allows ICAO to gather and use information to further improve its process and the continued success of future procurement actions.

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Appendix B - Major Procurement of CNS / MET Equipment undertaken by ICAO during the last three years

Project	Description	Amount in US \$
PER08802	8 RADAR, SECONDARY and ACC EQUIPMENT	34,094,128
ETH04701	Primary Surveillance Radar (PSR) & Monopulse Secondary Surveillance Radar System (MSSR) & Automatic Dependent Surveillance-Broadcast ADS-B) With 3 Years warranty, FDPS option and flight check.	7,900,000
URU08801	RADAR, Primary and Secondary	6,759,275
PER08802	SATELLITE LINK SYSTEM (VSAT)	4,432,899
LEB88701	Monopulse Secondary Surveillance Radar for Lebanon	3,324,096
ECU97015	Satellite Link System (VSAT)	2,997,927
AFG06701	DVOR/DME Systems each with all Equipment and Services to be Provided on Turnkey Basis	2,947,332
PHI08701	2 Instrument Landing System / Distance Measurement Equipment (ILS/DME) and associated equipment and services for the Mactan Cebu International Airport Authority (MCIAA), Philippines	2,441,000
URU08801	VHF-AM Aeronautical Band Transmitters and Receivers Radio Equipment	2,311,131
ETH04701	Procurement of an Aeronautical Message Handling System (AMHS) and associated equipment and services for ECAA, Ethiopia	1,525,354
ARG07803	MSSR Radar (procurement after a leasing period)	1,448,221
ARG07803	ILS/DME	1,264,303
ARG04801	VHF-AM Aeronautical Band Transceivers for Neuquen	983,216
URU05701	CVOR/DME Equipment	756,327
ARG04801	3 Distance Measuring Equipment (DME)	689,993
PAN08801	VSAT Link System Balboa and METAis	621,531
AFG07801	ILS/ DME/ DVOR Mock-up system (incl. air freight CPT to Kabul Airport) for Kabul International Airport, Afghanistan.	581,123
ARG09801	VHF-UHF AM-FM Equipment	538,489
ARG09801	Emergency Personal Locator Beacons	441,677
LEB88701	Stationary TETRA Communication System and associated equipment and services for Directorate General of Civil Aviation (DGCA), Lebanon.	440,000
ARG04801	VHF-AM Aeronautical Band Transceivers and ATIS System	437,097
PAN08801	CVOR/DME Equipment,	424,880
ARG04801	Leasing of 2 Automatic Dependant Surveillance (ADS) and Controller Pilot Data Link Communication (CPDLC) Workstations	414,742
ARG04801	Leasing of MSSR Radar	323,631
ARG09801	VHF AM-FM COM Equipment, Wan, Routers and UPS	216,232
AFG06701	METEOROLOGICAL SYSTEMS	128,427
AFG06701	SATELLITE DISTRIBUTION SYSTEM WORKSTATION (SADIS)	119,656
RLA03901	One year extension of the Leasing of Voice and Data Communications Services for the Interconnection of the MEVA/REDDIG satellite Telecommunications Network	112,969
ARG04801	Installation of VHF-AM Aeronautical Band Transceivers purchased	111,073
RLA03901A	Interconnection of the MEVA II and REDDIG Satellite Telecommunications Networks	108,525