

***COMISION NACIONAL  
DE ACTIVIDADES  
ESPACIALES***

**DIRECT CONTRACT  
(EXCLUSIVE) 141/2016**

**High-speed receivers and telemetry units,  
telecommand and ranging for external stations for  
SAOCOM Project**

**Receipt of Bid: Up to: 11 hs of day 09 of January 2017**

**SUPPLY UNIT**

**751, Paseo Colon Ave. 3rd floor - Capital Federal  
Ph: 54-11-4331-0074 ext. 5725  
(polivera@conae.gov.ar)**



## **Direct Contract (Exclusive) N° 141/2016**

### **Receipt of Bid:**

**Up to: 11:00 of day 09 of January 2017**

This Provisions and Conditions Form is composed of:

1. PARTICULAR PROVISIONS AND CONDITIONS FORM (includes the Technical Specifications of the line to be quoted) .....Page 3
2. GENERAL TERMS AND BIDDING CONDITIONS FOR THE CONTRACTING OF GOODS AND SERVICES OF THE NATIONAL GOVERNMENT, approved by Provision 63-E/2016 .....Page 13
3. ANNEX I – PARTICULAR CLAUSES CONCOMITANTS LOAN CONTRACT No. 1777/OC-AR .....Page 32
4. ANNEX I. QUOTE FORM .....Page 33
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## PARTICULAR PROVISIONS AND CONDITIONS FORM

Name of Contracting Agency	Comisión Nacional de Actividades Espaciales (CONAE), independent agency acting within the scope of the MINISTRY OF SCIENCE, TECHNOLOGY AND PRODUCTIVE INNOVATION
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### SELECTING PROCEDURE

Type: <b>DIRECT CONTRACT BY EXCLUSIVITY</b>	<b>N° 141</b>	<b>Fiscal year: 2017</b>
<b>Class: NO CLASS</b>		
<b>Method: NO METHOD</b>		
<b>File N°: 290/16 BID</b>		
<b>Commercial category: Equipment</b>		
<b>Contract subject: High-speed receivers and telemetry units, telecommand and ranging for external stations for SAOCOM Project</b>		

### SUBMISSION OF BID

Venue/Address	Opening Time and Date
<i>Unidad de Abastecimiento</i> CONAE 751, Paseo Colon Ave. 3rd Floor, C.A.B.A. Ph: 011 4331-0074 <a href="mailto:u_abaste@conae.gov.ar">u_abaste@conae.gov.ar</a>	The bid shall be sent by email or regular mail up to 11 hs of day 09 of January 2017.  <b>In case of sending the bid by regular mail, the envelope must be identified with the information about the selecting procedure and the name of the bidder.</b>



**TECHNICAL SPECIFICATIONS**

Line	QTY	Unit of measurement	Description
1	3	Unit	Elemetry, Telecommand and Ranging Unit for SAOCOM Mission Support. Model CRT-Q Including the following items: 1) CORTEX CRT-Q 7) L/S-Band Input and Output for CRT-Q 12) Plastic ruggedized box for transportation. <b>SEE TECHNICAL ANNEX III</b>
2	3	Unit	High Data Rate Receiver for SAOCOM Mission. HDR-4G in Sprint configuration Including the following items: 3) CORTEX HDR-4G 8) 10TB-SSD (RAID 6) for HDR-4G 12) Plastic ruggedized box for transportation. <b>SEE TECHNICAL ANNEX III</b>
3	6	Unit	Noise Source and Diversity Combiner licenses for CRT-Q units: S/N 13104, S/N 13135, S/N 13136, S/N 13137, S/N 13145, S/N 13146, S/N 13149

**NOTE:**

- Guarantee of the goods: 12 months
- Goods must be new and delivered in the original factory packaging.
- Certificates of compliance must be submitted.

**SPECIAL BIDDING TERMS AND CONDITIONS**

**GLOSSARY**

CONAE: NATIONAL AGENCY FOR SPATIAL ACTIVITIES. Contracting Agency.

BIDDER: It is the natural or legal person offering the bid in this procurement.

AWARDEE: It is the natural or legal person awardee of the procurement, through administrative act by competent authority.

COCONTRACTING PARTY: It is the natural or legal person that has been notified about the purchase order.

SUPPLY UNIT: It is the CONAE's Supply Unit. Operative Unit of Procurements of said Commission.

**SECTION 1 – RULING FRAMEWORK. PRIORITY RULES**

1.1. Every aspect that has not been set forth in this tender form shall be governed by and interpreted in accordance with the rules established by the Loan Agreement N° 1777/OC-AR, the National Administration Contract Regulations (Decree N° 1023/01), the National Administration Contract Regulations (Decree N° 1030/16), and the Provision N° 63-E/2016.



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In case doubts or discrepancies stemmed from the aforesaid provisions, the following set of priority rules should be observed:

- (a) Loan Agreement N° 1777/OC-AR
- (b) Decree N° 1023/2001, and the modifications and complementary.
- (c) The provisions of the regulations approved by Decree No. 1030/16
- (d) Rules established as a result of the aforementioned decree
- (e) The procedure manual of the Procurement Regime of the National Administration issued by the NATIONAL OFFICE OF CONTRACTS or the rules issued by said National Office as the governing body
- (f) The general bidding terms and conditions
- (g) The particular bidding terms and conditions
- (h) The supplier proposal
- (i) Samples
- (j) Tender
- (k) Purchase order.

### **SECTION 2- ABOUT THE BIDDER**

- 2.1. The bidder shall be entitled to trade the goods to be procured, according to the laws in-force of the country where he is residing.
- 2.2. He shall submit true copy of the application form at the tax entity of the country of origin or equivalent proof.
- 2.3. The foreign bidder and awardee shall be excepted form the obligation of registration in the System of supplier's information.

### **SECTION 3- ABOUT THE QUESTIONS**

- 3.1. Questions related to this procurement shall be made through email to: [magarcia@conae.gov.ar](mailto:magarcia@conae.gov.ar)
- 3.2. Questions can be asked up to TWENTY FOUR (24) hours before the fixed date for the receipt of the bid as minimum.
- 3.3. Telephone consulting shall not be accepted, and those made after deadline shall not be answered.
- 3.4. CONAE shall be able to elaborate clarifying communications to the Special Bidding Terms and Conditions, ex officio or as a reply to questions, up to TWO (2) days before the fixed date for the receipt of the bid as minimum, as per the established in the section 50 of the Decree Law N° 1030/16.

### **SECTION 4 - CONTENTS OF THE BID**

- 4.1. The bid shall be composed of a clear technical description of the goods and/or services offered which shall meet the requisites set forth in section 13 of the General Bidding Terms and Conditions.



***If the bidder does not submit the quote in Spanish, CONAE will translate it into Spanish and this new document shall be considered as the official translation of the quote.***

In the event of any differences or disputes concerning the terms and conditions of this Tender or related to the interpretation or the execution of the signed contract, the Spanish version translated by CONAE shall prevail.

4.2. The foreign bidder shall submit the power of attorney of the bid signer, the bylaws of the company and the articles of incorporation duly certified by Notary Public and authorized by the Argentinean Consulate in the country of origin or the corresponding proceeding as per the in force international treaties; among them, the Hague Convention of 1961 about the removal of the requisite about legalization of foreign public documents. The documentation mentioned in this clause shall be demanded only upon the first submission of the bidder on a tender or procurement process initiated by CONAE. Subsequently, it shall only be necessary to attach the corresponding modifications or updates, if any.

4.3. The bidder acting as authorized agent in the country or as distributor of goods to be imported, shall make such condition clear in its bid. People representing the bidder shall submit the documents (minutes of the meetings where the Board of Directors has been appointed, minutes of the Board of Directors with distribution of positions, mandates, powers of attorney) evidencing their faculties to oblige the bidder, celebrate every act and sign the necessary documents even the selection, unless said information is duly updated in the SYSTEM OF INFORMATION ABOUT SUPPLIERS (SIPRO).

Certifications and Legalizations: Every photocopied document shall be certified by Notary Public and where the demanded documentation has been submitted as a simple photocopy, this Commission shall be able to request the original documents for further collation.

#### **SECTION 5 - TERM OF BID VALIDITY**

5.1. Bidder shall maintain the bid, as a minimum, for the term of SIXTY (60) running days as of the date of bid submittal.

5.2. The term of bid validity shall be extended automatically for a period equal to the initial term and so on, with the exception that the bidder expressly states his intention of not renewing the term of the validity with at least TEN (10) running days in advance on the expiration date of each term. In this case, it shall be without execution of the bid bond.

5.3. If the offeror manifests his will not to keep his offer without complying with the deadlines committed in the proposal, it will be equivalent to exclude him from the procedure, executing the guarantee of maintenance of the offer, and notifying the non-compliance to the NATIONAL OFFICE OF CONTRACTS.

#### **SECTION 6 - ALTERNATIVE BID**

6.1 Apart from the base bids, bidders shall be able to submit alternative bids.

*Decree N° 1030/2016. ARTICLE 56.- "...An alternative bid is that which fulfilling all technical specifications of the foreseen benefits in the tender form and particular*



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*conditions, provides different technical solutions thus there may exist different prices for the same product or service... ”.*

6.2 CONAE shall be able to choose any of the two or more submitted bids, since every one of them competes with the ones submitted by the other bidders.

### **SECTION 7 - VARIANT BID**

7.1 Apart from the base bid, bidders shall be able to submit variant bids only where these bidding terms and conditions expressly accept those in the technical specifications.

*Decree N° 1030/2016. ARTICLE 57.- “...A variable bid is that which modifying technical specifications of the foreseen benefits in the tender form and particular conditions, provides a solution with an improvement which could not be possible if it had to be strictly fulfilled... ”.*

7.2 The jurisdiction or contracting entity shall only compare the base bid of the different bidders and shall only consider the variant bid of the bidder holding the most convenient base bid.

### **SECTION 8 - SAMPLES**

Where the submission of samples is required in the technical specifications, the term to accompany those shall be the date and hour fixed for the reception of the bid.

### **SECTION 9 - QUOTE**

The financial bid shall be submitted within the QUOTATION FORM (ANNEX I) that is part of these bidding terms and conditions.

It shall include a real unit price, in numbers, with reference to the measurement unit established in this section.

9.1 The quotes for national products shall be made in PESOS. The value added tax (VAT) shall be included and must detail the percentage of the tax rate applied.

9.2 The quotes for foreign products, nationalized by the bidder, shall be made in PESOS or AMERICAN DOLLARS. The value added tax (VAT) shall be included and must detail the percentage of the tax rate applied.

9.3 The quotes for the products to be imported and which shall be nationalized by the contracting entity, shall be made in the currency of the country of the product, under FOB, EXW or CIF (INCOTERMS UPC-600 of the CCI), indistinctly. For CIF offers, the FOB value, the freight and insurance shall be broken down, in order to be compared with the offers made under FOB condition. For EXW offers, CONAE shall request its freight forwarder a quotation, in order to enable said comparison.

Bidders acting as authorized representatives in the country or the distributors of goods to be imported, shall make such condition clear in their bid and what is set forth in clause 15.3 of this bidding terms and conditions shall apply.

**THE QUOTED PRICE SHALL BE THE FINAL PRICE THAT THE AGENCY SHOULD PAY IN ALL RESPECTS.**

### **SECTION 10 – OFFER VALIDITY WARRANTY**



10.1. The offeror must submit together with his offer a guarantee of maintenance of an offer equivalent to FIVE PERCENT (5%) of the total value of the offer, constituted in one of the forms established in Article 39 of the General Terms and Conditions. In case of being quoted with discounts, alternatives or variants, the guarantee will be calculated on the highest amount proposed.

10.2. It will not be necessary to present a guarantee of maintenance of the offer, in the cases expressly mentioned in article 40 of the General Terms and Conditions.

### **SECTION 11 - PLACE OF DELIVERY OF GOODS**

11.1. For the bids of national products or nationalized ones by the bidder, delivery must be done in: Teófilo Tabanera Space Center, C-45 route, km 7,5, Falda del Cañete, Province of Córdoba.

11.2. For bids made EXW, delivery shall be made at factory, delivery of FOB bids shall be made in port or airport of origin and CIF bids shall be delivered in Destination Port or Airport.

### **SECTION 12 - DEADLINE FOR DELIVERY OF GOODS.**

12.1- Bid shall indicate the shortest Delivery Term as possible, expressed in consecutive days. A term no longer than 5 (five) consecutive days, starting from the first consecutive day after receipt of the corresponding Purchase Order, will be considered as Immediate.

12.2- The Delivery Term will start THREE (3) consecutive days after the communication of availability of the Purchase Order or after withdrawing it from the Supply Unit, whichever comes first.

12.3. For acquisitions performed in Ex Works, FOB or CIF condition, the Delivery Term will start from the opening of the corresponding documentary credit or wire transfer reception.

12.4. According to the provisions of article 102, section c), paragraph 1 of the regulations approved by Decree Number 1030/16, the bidder arising as awardee and not fulfilling with stated delivery terms in the bid would be subject to fine of ZERO POINT ZERO FIVE PERCENT (0.05%) of the value that has been met out of term for each working day of delay.

### **SECTION 13° - REQUISITES FOR GOODS BOUGHT ABROAD BY CONAE**

13.1. Previous to the shipping of goods in their country of origin:

- CONAE must confirm the Commercial Invoice of the items to be shipped: such shall be evaluated according with the pro-form invoice sent.
- Packing list in Spanish or in English, with details of supply, weight and measure of bulks. Brochures and Technical Specifications of the supply shall be required whenever it may be necessary. Likewise, at request of the Customs Agent named by CONAE, all the necessary certificates required by Argentine Customs shall have to be presented under seller's responsibility such as: material, brand, origin, etc.
- Pictures of bulks, pictures of the goods inside the boxes if possible.





- In cases which the Technical Specifications require processes and quality certificates, registry of exemption, as applicable technical condition, its fulfillment shall be necessary and inexcusable condition for shipping and later reception in agreement of the supply.
- In cases indicated by the Technical Specifications: refrigeration at Customs. Chamber temperature, during the whole journey and by any means of transport.
- Load delivery special requisites.
- In case of dangerous load, presentation of DATA SHEET shall be compulsory at the moment of delivery of the goods.
- Special requisites for the handling of goods during delivery and storage.
- In case of failing to duly present the documentation in agreement with CONAE, dispatch shall not be authorised, being the Bidder responsible for any delay or lack of fulfillment in the terms.

13.2. The Supplier should wait for the instructions given by CONAE to proceed to the effective deliver of the supply to the designed forwarder. Delivering the cargo without CONAE authorization will mean a breach of contract and the Supplier should reimburse the damages caused, from the moment of the delivery to the designed agent. In the same way, the Supplier should reimburse CONAE, if the former decides, without counting on the instructions of the Organism, to load the Supply through third party agents, airlines or shipping companies.

13.3. Elements sent to be consumed in Argentine Republic (Definitive Import), and/or elements which should be re-export from this country (Temporary Import), should be pack in separate packages, a Commercial Invoice should be prepared for each type of destination: definitive or temporary, and separate boardings should be made (one for the Definitive Import and other for the Temporary Import).

13.4. The Supplier will pack Goods so that they do not damage in transit to the final destination indicated in the Purchase Order. The packaging should be suitable to resist, with no limitations, rough and careless handling in transit and exposure to extreme temperatures, salt and rains in transit or during storage in open places. The size and weight of the packaging will be taken into account depending on the distance of the final destination of Goods and the lack of loading and unloading heavy equipment in all the stops until the final destination.

The wood destined to the manufacture of boxes or other elements used in the stowage of cargo of International commerce, should be subject to the International Standards for Phytosanitary Measures 15 (ISPMs) established guidelines of the Food and Agriculture Organization of the United Nations.

13.5. CONAE will supervise the fulfillment of the technical specifications for certain packages or means of transport, authorizing or rejecting the delivery in the forwarder assigned for this purpose.

#### **ARTICLE 14° - TERM OF GOODS AND/OR SERVICES FINAL ACCEPTANCE**



14.1. For technical or logistics reasons, CONAE could accept the reception of goods in a term of no more than THIRTY (30) calendar days starting from the first working day following the delivery of the good or service.

14.2. If it is necessary, CONAE will carry out inspections, so as to verify if the specifications agree with those in the contract. The inspections and tests specified in the Technical Specifications, and the place where will they be carried out, will be required by CONAE .

14.3. The inspections and tests could be carried out in the Supplier facilities, where the delivery takes place and/or in the final destination of the Goods and/or Services, in agreement to the Technical Specifications. When they were carried out in the Supplier locations, all the reasonable assistance will be offered free of charge to the representatives of CONAE, even for the plans and data about production.

14.4. In the case of civil works, installation works or any other performance that entails a period of established tests, either by performance of the service, by hidden defects, or any other condition that warrants a time of maturity of the acquired or Contracted, the reception will have conditional nature attentive to the deadlines set for each case in the Specific Terms and Conditions without altering the formation of the guarantee in the terms or forms that are established for each case.

#### **ARTICLE 15 - INVOICING**

15.1. Invoices should be sent once the acceptance of final reception of the goods and/or services subject of the agreement.

Acceptance of final reception will be given within a THIRTY (30) days term starting from the reception of goods or services subject of the agreement, pursuant to article 44 of the Tender Form and General Conditions.

15.2. They should be submitted at Av. Paseo Colón 751, Reception desk, Autonomous City of Buenos Aires, from 10 am to 4 pm. Electronic invoices could be sent at the following e-mail address: [mesadeentradas@conae.gov.ar](mailto:mesadeentradas@conae.gov.ar).

15.3. Suppliers should detail in their invoices: Purchase Order Number, line, item and any other necessary information for the correct identification and individualization of such expenditure.

15.4. Since CONAE is a withholding agent both of the Value Added Tax and of the Income Tax, if awarding companies are excluded from such withholding they should also submit the invoice documents confirming that situation, or on the contrary CONAE will duly perform corresponding withholdings for those concepts.

#### **ARTICLE 16 - PAYMENT FORM AND CURRENCY**

16.1. On the assumption that awarding falls on a bid stated in Argentine PESOS (\$), payment to the awardee will be performed in that currency and through wire transfer within 30 working days from the invoice reception (previous agreement of final acceptance), according to National General Treasury rules.

16.2. If awarding falls on a nationalized bid stated in Foreign Currency, payment to the awardee will be performed in Argentine Pesos and through wire transfer within 30 working days from invoice reception (previous agreement of final acceptance), according



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to National General Treasury rules and the selling exchange rate of BANK OF THE ARGENTINE NATION in force at the moment of the corresponding bank accreditation. BANK ACCOUNT INFORMATION. For the purposes of receiving the payment for the delivered goods and services given they should inform their bank account number in national currency, current or savings account, which should be opened in one of the banks joint to the system, authorized to work as paying agent, named below:

1. BANK OF GALICIA AND BS. AS. Inc.
2. BANK OF ARGENTINE NATION
3. BANK OF BS. AS. PROVINCE
4. BBVA FRANCES BANK Inc.
5. BANK OF BS. AS. CITY
6. PATAGONIA BANK Inc.
7. SAN JUAN BANK Inc.
8. SANTANDER RIO BANK Inc.
9. HSBC ARGENTINA BANK Inc.
10. CREDICOOP LIMITED COOPERATIVE BANK
11. MACRO BANK Inc.
12. CHACO NEW BANK Inc.
13. SANTA FE NEW BANK Inc.
14. SUPERVIELLE BANK Inc.
15. HIPOTECARIO BANK Inc.
16. CITI BANK N.A.
17. SECURITIES BANK Inc.
18. TIERRA DEL FUEGO PROVINCE BANK
19. TUCUMÁN BANK Inc.
20. ENTRE RÍOS NEW BANK Inc.
21. CHUBUT BANK Inc.
22. NEUQUÉN PROVINCE BANK Inc.
23. ITAÚ ARGENTINA BANK Inc.
24. INDUSTRIAL AND COMMERCIAL BANK OF CHINA (ICBC)
25. FORMOSA BANK Inc.
26. CÓRDOBA BANK Inc.

Since Treasury payments are performed through wire transfer informed by the supplier, this requirement should be fulfilled to receive payments as a creditor.

Beneficiary registration. Within the term fixed for that purpose, following forms duly completed should be submitted:

- ANNEX I to Joint Resolution account N° 12/06 of the NATIONAL GENERAL ACCOUNTING AND 5/06 of NATIONAL GENERAL TREASURY – PAYMENTS BENEFICIARIES. REGISTRATION/ MODIFICATION / REACTIVATION APPLICATION – Should be completed and accompanied by Beneficiary CIF record.

- ANNEX to Joint Resolution account N° 37/08 of NATIONAL GENERAL ACCOUNTING and 8/2008 of the NATIONAL GENERAL TREASURY – AUTHORIZATION OF NATIONAL TREASURY TO PERFORM PAYMENTS IN



BANK ACCOUNT - Which should be completed and certified by the authority of the bank where the account is situated.

16.3. For the offers of products to be imported as indicated in section 9.3 of this tender, payment will be performed under some of the foreign circulating documents (irrevocable letter of credit or wire transfer). Payment currency will be the same expressed in the bid.

Letter of credit mentioned in the previous item will be confirmed by some of the Argentine National Bank branches abroad or by some of the banks having commercial relations with that entity.

16.4. CONAE could evaluate other payment proposal offered by the offerors but it is not obliged to accept it.

#### **ARTICLE 17 - ANTI CORRUPTION CLAUSE**

Giving or offering money or any donation will be decisive cause of rejection, without further proceedings of the proposal or bid, in any phase of the proceeding or of the full rights contract cancellation so as to:

- a). Public officers and employees with competence referred to a tender or contract perform or stop doing something related to their functions.
- b). Or so that they take advantage of the influence of their position before other public officer or employee with the described competence, so that they perform or stop doing something related to their functions.
- c). Any person that takes advantage of his relation or influence under some public officer or employee with the described competence, so that they perform or stop doing something related to their functions.

Those who have committed such acts in direct or indirect interest of the contractor, whether as administrator representatives, partners, chief executives, managers, agents, employees, contract workers, business consultants, trustees or any other natural or legal person will be considered perpetrators of this conduct.

These unlawful conducts will have consequences even when they have been executed as an attempt.

#### **ARTICLE 18 - NON DISCLOSURE CLAUSE**

Interested and possible offerors will use technical information included by CONAE in this Tender Form and Particular Conditions and that they eventually have access at the moment of contract execution, to submit their quotation and fulfilling with respective contract obligations, exclusively, and could not be used – such information – with purposes different to those foreseen in the request.

Simply by accessing to technical contents of the request by different formal means legally predisposed, the pure and simple recognition that Argentine Republic National Commission for Space Activities (CONAE) is the exclusive owner of all the applicable and derivative rights of the technical information mentioned is implied.

#### **ARTICLE 19 - COMPETENT JURISDICTION**



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Eventual divergences deriving from this contract will be submitted to Federal Court for Administrative Law Disputes located at Autonomous City of Buenos Aires, waiving to any other jurisdiction that could correspond to them.



**UNIQUE BIDDING DOCUMENT OF GENERAL TERMS AND CONDITIONS  
OF THE CONTRACTING REGIME OF THE NATIONAL ADMINISTRATION**

SECTION 1°.- LEGAL REGIME OF CONTRACTS. The contracts included in the regulation approved by Decree N° 1030/16 shall be governed, as regards their drafting, awarding, effects and termination, by Delegated Decree N° 1023/01 and its amendments and additions thereto, by the aforementioned regulation and by the provisions duly included, by the document of terms and conditions, by the contract, agreement, purchase or sale order, as appropriate, without prejudice of the direct application of provisions in Title III of Law N° 19,549 and its amendments as appropriate.

Additionally, the rest of the legal administrative norms will be applied and, alternatively, the norms of private law will be applied by analogy.

SECTION 2°.- PRIORITY ORDER. All documents governing the bid, as well as those included in the contract, shall be deemed as reciprocally explanatory. In case of disagreements, the following priority order shall be respected:

- a) Delegated Decree N° 1023/01 and its amendments and additions.
- b) The provisions of the regulation approved by Decree N° 1030/16.
- c) The norms set forth as a consequence of the aforementioned regulation.
- d) The procedures manual of the National Administration Contracting Regulations issued by the CONTRACTING NATIONAL AGENCY or the provisions issued by the National Agency as ruling body.
- e) The Unique Bidding Document of General Terms and Conditions.
- f) The special bidding document of special terms and conditions applicable.
- g) The offer.
- h) The samples that might be attached
- i) Awarding.
- j) Purchase order, sale order, or the contract, as appropriate.

SECTION 3°.- COUNTING OF DEADLINES. All deadlines set forth in the present bidding document shall be counted in working days, unless otherwise expressly stated by such document.

SECTION 4°.- VIEW OF THE PROCEEDINGS. Every person who certifies any interest may be able to view the file including the selection procedure, except for the documents protected by confidentiality norms or declared as classified or secret by the governing authority.

View of the proceedings shall not be granted, during the period of offer evaluation, as from the referral of the file to the Evaluating Commission up to the notice of evaluation decision.

SECTION 5°.- APPEALS. Those appeals against administrative acts regarding the selection procedures shall be governed by provisions in Law N° 19.549, its amendments and regulatory norms.



SECTION 6°.- NOTICES. All notices between the jurisdiction or contracting entity and those interested bidders, awardees or co-contractors, shall be duly performed by any of the following means, indistinctly:

- a) by direct access of the interested party, its attorney or legal representative to the file;
- b) by spontaneous presentation of the interested party, its attorney or legal representative, who are aware of the respective deed;
- c) by certificate, which shall proceed similarly to the provisions set forth in section 138 of the National Civil and Commercial Code of Procedures;
- d) by legal letter;
- e) by other means provided by companies which render the mail service;
- f) by electronic mail;
- g) by publication on the internet site of the CONTRACTING NATIONAL AGENCY, if it is certified in the special document of terms and conditions;
- h) by publication on the internet site of the contracting electronic system run by the National Administration authorized by the CONTRACTING NATIONAL AGENCY.

SECTION 7°.- VIEW AND WITHDRAWAL OF BIDDING DOCUMENTS. Any person shall be authorized to view the Unique Document of General Terms and Conditions, and the documents of special bidding terms and conditions, in the contracting jurisdiction or entity, on the internet site of the CONTRACTING NATIONAL AGENCY or on the site of the contracting electronic system. Likewise, they shall be authorized to withdraw or buy them in the contracting jurisdiction or entity, or download such documents from the web.

In case the bidding document had a cost, the paid amount shall not be returned under no circumstances.

Upon withdrawal, purchase or downloading of the bidding documents, the interested person shall duly inform name or business name, address, and e-mail address in which all notices shall be sent up to the day of opening of bids.

Either the withdrawal or purchase of bidding documents from the contracting body, or downloading such documents from the web site, shall not be a requisite for bidding, for accepting such bids, nor for contracting. However, those who had not withdrew, purchased or downloaded, shall not be entitled to claim ignorance of the proceedings produced up to the day of opening of bids, and it is under their responsibility to take the necessary steps in order to acquaint themselves of the above mentioned proceedings.

SECTION 8°.- CONSULTATIONS TO THE SPECIAL BIDDING TERMS AND CONDITIONS. Consultations to the special bidding terms and conditions shall be done in writing at the contracting jurisdiction or entity, or at the place stated in the aforementioned bidding document, or at the institutional e-mail address of the contracting body published in the appropriate call.

Upon consultation of the bidding document, the consulting parties that might not have previously done it, shall obligatory provide their name or business name, address and



electronic mail address to which the official notices shall be sent up to the day of opening of bids.

Telephone consultations shall not be accepted and those consultations done after the deadline set forth shall not be answered.

Consultations may be done at least up to THREE (3) days before the date set for the opening, except that the special bidding terms and conditions stated a different deadline, in case of bidding proceedings or public or private tender, and public auction. In the selection proceedings by abridged analysis or simple award, the contracting jurisdiction or entity shall set forth in the special bidding terms and conditions the deadline for consultation, taking into account the previous term stated in the particular proceeding for submitting the bids or quotation requests.

SECTION 9°.- PRESENTATION OF BIDS. Bids shall be presented at the place and up to the day and time as set forth by the contracting jurisdiction or entity in the call.

SECTION 10°.- EFFECTS OF PRESENTATION OF THE BID. The presentation of the bid shall mean that the bidder fully knows and accepts the norms and provisions governing the selection procedure thereto, and consequently the presentation of signed bidding documents together with the bid shall not be necessary.

SECTION 11°.- UNMODIFICATION OF BID. The possibility of modifying the bid shall conclude upon the presentation deadline, without acceptance of any amendment in the essence of the proposals after such event.

If a bidder intended to correct, complete or replace an offer which has already been submitted in the same selection procedure, before the completion of deadline for submitting offers, the last bid submitted in due term shall be deemed valid. If it were not possible to determine which is the last bid duly submitted, all bids presented by such bidder shall be dismissed.

SECTION 12°.- TERM FOR MAINTENANCE OF OFFER. Bidders shall maintain the offers for a term of SIXTY (60) calendar days as of the date of opening, except that the corresponding special bidding terms and conditions set forth a different deadline. The abovementioned term of SIXTY (60), or the term that may be stated in the respective special bidding document, shall be automatically renewed for a term equal to the initial one, or for a term set in the corresponding special bidding document, and so on, except that the bidder expressly claims their interest in not renewing the maintenance term at least TEN (10) calendar days before the completion of each deadline.

The default extension of the offer maintenance term shall not exceed ONE (1) year as of the date of bid opening.

The bidder shall be entitled to express in the offer that the maintenance term shall not be renewed on a second period or that such offer shall be maintained for a certain number of periods, and in that case, the contracting jurisdiction or entity shall deem such offer as withdrawn upon completion of the mentioned term.





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If the bidder, in the document stating that the offer shall not be maintained, expressly claims from which date the offer shall be withdrawn, the Administration shall deem it as withdrawn on such date stated. In case the bidder did not state any date, the offer shall be deemed as withdrawn as of the deadline of offer maintenance in process.

Any bidder who states that his offer shall not be maintained, shall be excluded from the selection procedure as of the date set forth in the previous paragraph.

If the bidder stated his denial to extend the maintenance of his offer within the term set forth for such purpose, he shall be excluded from the selection procedure, without losing the offer maintenance guarantee. On the contrary, if the bidder stated his interest of no maintenance of offer beyond the term set forth for such claim, or withdrew his offer without fulfilling the maintenance deadlines, he shall be duly excluded from the procedure and the offer maintenance guarantee shall be executed.

After the notice of awarding deed, the term of offer maintenance shall be renewed for TEN (10) working days. If such term expired without any notice of the purchase or sale order for reasons not attributable to the awardee, such awardee shall be entitled to abandon the offer without receiving any kind of penalty.

**SECTION 13°.- REQUIREMENTS OF BIDS.** Bids shall meet the following requirements:

- a) They shall be written in the national language.
- b) The original copy shall be signed, in all and every page, by the bidder or the legal representative.
- c) Any underlining, amendments, scratches or line spacing shall be duly clarified by the signing bidder.
- d) The envelopes, boxes or packages containing the bids shall be perfectly sealed and shall be labeled on its cover with the identification of the corresponding selection procedure, with details of place, day and deadline time for bid presentation, and the place, day and time of opening event.
- e) They shall include the special domicile for the selection procedure to which they apply. Such domicile can be established anywhere in the national territory or in a foreign country. In this last case, as long as there is no domicile or representation in the country, this status shall be duly certified by an affidavit. If no special domicile were declared in the corresponding bid, the special domicile shall be the one declared as such in the System of Suppliers Information (SIPRO).
- f) The quotation in accordance with the following provisions of this bidding document.
- g) They shall clearly state, in the cases in which alternative and/or optional bids are submitted, which is the base bid and which are the alternative or optional. In all cases, a base bid shall be included.
- h) Likewise, they shall include:

1.- The bid maintenance guarantee or the guarantee constitution certificate, except for cases in which such presentation is not applicable.

In cases in which such presentation is applicable, the bid maintenance guarantee shall be FIVE PER CENT (5%) of the total amount of the bid. In case a quotation with discounts, alternatives or options, the guarantee shall be calculated on the highest amount offered. In



cases of multiple-stage biddings or tenders, or when it is envisaged that the quotations to be received might include the free rendering, or imply some income, the bid maintenance guarantee shall be established at a fixed amount by the contracting jurisdiction or entity, in the special bidding of terms and conditions.

2.- The samples, if so required by the special bidding of terms and conditions.

3.- A national bid affidavit, by which it is certified that the required conditions are met so as to be considered as such, pursuant to the regulations in force on this matter, in cases of goods of domestic origin.

4.- An affidavit stating that, in case of being chosen as awardee, he shall hire handicapped persons, in no less than FOUR PER CENT (4%) of the total number of the staff involved in the service, in the selection procedure for outsourcing the services, in order to fulfill the obligation set forth in section 7° of Decree N° 312, dated on March 2, 2010.

5.- Data of the note submitted before the office of the FEDERAL ADMINISTRATION OF PUBLIC REVENUE in which it is enrolled in order to request the 'Fiscal Certificate for Contracting' or the data of the Fiscal Certificate for Contracting in force. The bidder is obliged to report to the contracting agency about the denial of fiscal certificate contracting application issued by the FEDERAL ADMINISTRATION OF PUBLIC REVENUE within FIVE (5) days of being informed about it.

6.- The rest of the information and documents requested in the corresponding special bidding terms and conditions.

i) The foreign bidders shall also submit, together with the bid, the following documents:

1.- The physical persons:

1.1 A true copy of passport or identification issued by the country of origin in case of not having a passport.

1.2. A true copy of the registration form before the tax agency of the country of origin, or an equivalent certificate.

2.- The legal persons:

2.1 Documents stating the constitution of legal person under the norms governing the creation of such entities.

2.2 Documents stating the legal status (term, assembly minutes in which he/she is appointed as proxy for the entity, etc.) of the attorney or representative for the respective entity.

2.3 True copy of the registration form before the tax agency of the country of origin, or an equivalent certificate.

SECTION 14°.- ALTERNATIVE BIDS. Besides the base bid, bidders shall be able to submit, in any case, alternative bids under the terms of SECTION 56 of the regulation approved by Decree N° 1030/16.

SECTION 15°.- OPTIONAL BIDS. Besides the base bid, bidders shall be able to submit optional bids only when the special bidding terms and conditions accept it expressly pursuant to terms of SECTION 57 of the regulation approved by Decree N° 1030/16.

SECTION 16°.- QUOTATION. The quotation shall include:



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1. The unit and accurate price, in numbers, with reference to the measure unit stated in the special bidding terms and conditions, the total price of the line, in numbers, the offered quantities, and the grand total of the quotation, written in letters and numbers, in the quotation currency stated in the special bidding terms and conditions.

2.- The quoted price shall be the final price to be paid by the contracting jurisdiction or entity in every respect.

3.- The bidder shall be able to quote for one, many or all the lines.

After quoting for every line, bidder shall be able to offer a discount in the price, for all the lines or for a group of lines, on the basis of the whole award. In case of turnkey proceedings or that in the special bidding terms and conditions were stated that the award will be done by line group, bidders shall quote all the lines making up the special bidding terms and conditions or the line group respectively.

4.- Unless otherwise stated in the special bidding terms and conditions, the micro, small and middle-size business and the bidders that meet the sustainability criteria set forth in the respective special bidding terms and conditions, shall be able to submit a quotation for part of a line, in the percentage that establishes the respective special bidding terms and conditions, which shall neither be lower than TWENTY PER CENT (20%) nor higher than THIRTY PER CENT (35%) of the total line. If the special bidding terms and conditions did not establish such percentage, it shall mean that they shall be able to quote TWENTY PER CENT (20%) of each line.

When the presentation of partial quotations is admitted for the micro, small and middle-size business and for those who meet the sustainability criteria, the rest of the bidders interested shall be able to quote different prices, considering the possible awarding percentages, without prejudice to the obligation to present the appropriate quotation for the amount stated for each line.

In the cases in which the partial quotation percentage allowed did not show an accurate amount, and by the nature of the service it is impossible to deliver such amount, the quotations shall be made for an accurate amount close to the amount resulting from applying the percentage set forth in the special bidding terms and conditions.

In the cases in which the presentation of partial quotations is not permitted, all bidders shall only quote for the total amount established for each line.

**SANCTION 17°.- QUOTATION CURRENCY.** The quotation currency of the bid shall be fixed in the respective and special bidding terms and conditions and at the beginning will be the national currency. In case the quotation shall be performed in foreign currency and the payment in national currency, the payment amount shall be calculated considering BANCO DE LA NACIÓN ARGENTINA current sell rate type at the issuance of the payment order, or at the moment of the corresponding bank accreditation, which should be stated in the respective and special bidding terms and conditions.

**SECTION 18°.- QUOTATIONS FOR PRODUCTS TO BE IMPORTED.** Quotations for products to be imported shall be done under the following conditions:

a) In foreign currency, whenever provided for in particular clauses, corresponding to the country of origin of the offered asset or other usual at the import moment.



- b) Special bidding terms and conditions should be subject to regular use commercial terms in the international commerce, such as, among other, “Official Rules of the International Chamber of Commerce for the Commercial Terms Interpretation – INCOTERMS”. The selection of the applicable term shall depend of the jurisdiction or entity needs and of the characteristics of the property covered by the agreement.
- c) If not stipulated to contrary, quotations shall be established in C.I.F. condition.
- d) In quotations in C.I.F. conditions, the quotation currency of the insurance and freight shall be indicated. They shall be quoted as set forth in the respective and special bidding terms and conditions.
- e) In those special cases where the F.O.B. condition will be established for the quotations, the contracting organism or entity should calculate the insurance and freight cost for the purposes of performing the bids comparison.
- f) Unless expressly set forth to the contrary, the delivery terms shall be deemed performed when the contracting organism receives the assets in the place indicated in the special bidding terms and conditions.
- g) When it has been stipulated that the awarding asset customs clearance should be in charge of the contracting jurisdiction or entity, it shall be processed and obtained in all cases after the corresponding letter of credit or bank instrumentation opening.

SECTION 19°.- SAMPLES. The presentation of samples for the special bidding terms and conditions could be required by the bidder indicating the term to accompany them, which should not go beyond the deadline fixed in the call for bids presentation.

The bidder could, in order to better explain his bid, show samples, but could not replace with them the technical specifications.

Samples should visibly indicate the corresponding selection procedure data and bids opening date and time. Inside the envelope, box or package containing the bids, the bidder should state his name and business name.

SECTION 20°.- AUTHORIZED PERSONS TO CONTRACT. Individual and legal entities with competence to assume obligations could contract with National Administration. They should not be included in the following SECTION foresights and should not be incorporated in the Providers Information System, upon starting bids evaluation period. Previous registration shall not be considered a requirement to submit bids.

SECTION 21°.- NON AUTHORIZED PEOPLE. Those who could not contract with National Administration shall be:

- a) Individuals and legal entities sanctioned in virtue of provisions foreseen in sections 2. and 3. from SECTION 29. b) of the Delegated Decree N° 1023/01 and its amendments and modifications.
- b) National Public Sector agents and officials and companies where they have a satisfactory stockholding to express the corporate will, pursuant to Public Ethics Law, N° 25.188.
- c) Bankrupts, reorganizations and interdicts until they are discharged.



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- d) Those sentenced for wilful offences, for twice the length of the original sentence.
- e) People who were prosecuted based on crimes against property or against National Public Administration or against public trust or crimes comprised in the Inter-American Convention against Corruption.
- f) Individuals and legal entities who had not fulfilled their taxable and social security obligations, according to those provided by regulations.
- g) Individuals and legal entities who had not fulfilled in due time with requirements established in the last paragraph of SECTION 8°, Law N° 24.156.
- h) Employers included in Employers Public Registry with Labor Sanctions (Registro Público de Empleadores con Sanciones Laborales (REPSAL)) while appearing on that registry.

SECTION 22°.- BIDS OPENING. Offers shall be opened in a public session, in the place, date and time fixed to enter into the proceeding. Jurisdiction officials or contracting entity and all those who wish to witness it shall be present. They could verify existence, number and origin of the envelopes, boxes or packages ready to be opened.

If the agreed date for bids opening were a holiday, the session shall be performed the following working day, at the same place and time.

No bid submitted in due course could be rejected in the opening act. In case of comments, they will be certified in the opening certificate to be analyzed by competent authorities.

SECTION 23°.- BIDS SIGHT. People who are interested could review quoted prices in bids, if they required so, during their opening. Bids originals shall be shown to bidders during TWO (2) days, from the day following to the opening. Bidders could request a copy, at their own expense.

If there were only one bidder, the requirement to fulfill the opening in due course could be ignored.

SECTION 24°.- BIDS EVALUATION PERIOD. Bids evaluation period shall start from the moment in which the proceedings are sent to the evaluation commission, until the evaluation ruling notice.

Bids evaluation period is confidential, for that reason during this period no sight of proceedings shall be permitted.

SECTION 25°.- UNREMEDIED CAUSES FOR DISMISSAL. The bid shall be dismissed and no amendment shall be possible, in the following cases:

- a) If it has been stated by individuals and/or legal entities that were not set up in the Providers Information System until the beginning of the bids evaluation period, or until the awarding date in cases no evaluation report shall be issued.
- b) If it has been stated by individual or legal entities that are not authorized to contract with NATIONAL ADMINISTRATION according to provisions foreseen in SECTION 28 from the Delegated Decree N° 1.023/01 and its amendments and modifications, at bids opening moment or in their evaluation period or during awarding.



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- c) If bidder were ineligible in accordance with SECTION 68 from regulation approved by Decree N°1030/16.
- d) If samples were not accompanied in fixed term.
- e) If the quoted price has been described as excessively low or not serious price.
- f) If any part has been crossed out, erased, altered or interlined without certifying the corrections made in sheets where the offer, the asset description or the offered service, lead time or any other part considered the essence of the contract are written.
- g) If it were written in pencil or somehow it can be erased and rewritten without leaving trails.
- h) If it had conditionings.
- i) If it had clauses in conflict with regulations ruling contract or impeding the exact comparison with other offers.
- j) If it had errors or essential omissions.
- k) If it had not the bid bond or the proof of having created it.

In special bidding terms and conditions other grounds for unremedied dismissal of bids could not be foreseen.

SECTION 26°.- GROUNDS FOR AMENDABLE DISMISSAL. In case it were possible to rectify errors or omissions, in all events it shall be understood as the possibility to give the jurisdiction or procuring entity as many valid bids as possible thus avoiding inability to choose serious and convenient bids from the price and quality point of view, due to unimportant formal issues.

Deficiencies rectification shall be possible every time any historical data or information found in public organisms database or not affecting the principle of equal treatment for applicants and bidder should be confirmed.

In these cases Evaluation Commissions, by themselves or through the Contract Operational Unit, should demand the bidder for correction of errors or omissions within the term of, at least, THREE (3) days unless it is stated a longer term in the special bidding terms and conditions document.

Errors or omissions correction could not be used by the bidder to alter the substance of the bid or improving it or taking advantage from other bidders.

SECTION 27°.- GUIDELINES FOR INELIGIBILITY. Bid should be dismissed when information stated in SECTION 16 of Delegated Decree N° 1.023/01 and its amendments and modifications, or in other sources, configures, among others, any of the following assumptions:

- a) Presumable bidder is a continuation, transformation, merger or demerger of other companies which are not authorized to contract with NATIONAL ADMINISTRATION, pursuant to SECTION 28 of the Delegated Decree N° 1.023/01 and its amendments and modifications, and its controlled and controlling parties.
- b) If they are part of companies not authorized to contract with NATIONAL ADMINISTRATION, pursuant to SECTION 28 of the Delegated Decree N° 1.023/01 and its amendments and modifications.



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- c) When there is precise and concordant evidence about bidders suggesting they have agreed or coordinated positions/bids in the selection procedure. This ground for ineligibility, among other assumptions, shall be considered as configured in bids submitted by spouses, live-in partners or immediate relatives whether by nature, by assisted human reproduction or adoption, unless otherwise stated.
- d) When there is precise and concordant evidence suggesting competence or coincidence simulation intercedes. This ground shall be considered as configured, among other assumptions, when a bidder participates in more than one bid as part of a group, association or legal entity, or when appearing in his/her own name and as part of group, association or legal entity.
- e) When there is precise and concordant evidence suggesting a simulation intercedes in the case aimed at avoid effects of incompatibility clauses to contract with NATIONAL ADMINISTRATION, pursuant to SECTION 28 of the Delegated Decree N° 1.023/01 and its amendments and modifications.
- f) When some legal or administrative sanction has been issue against bidder, within THREE (3) calendar years previous to its presentation, due to abuse of dominant position or dumping, any kind of unfair competition or due to arrangement or coordination of positions/bids in selection procedures.
- g) When there exists non-performance of previous contracts, as set forth in the respective special bidding terms and conditions.
- h) When the legal entity is convicted, with final judgment entered in foreign country, due to the practice of transnational bribery in terms of the Organization for Economic Co-operation and Development (OECD) Convention to Combat Bribery to Foreign Public Officials in International Commercial Transactions, they shall be ineligible for a period equal to the double of sentence.
- i) Individuals or legal entities included in lists of disqualified of the World Bank and/or Inter-American Development Bank, due to bribery conducts or practices considered/provided in the Organization for Economic Co-operation and Development (OECD) Convention to Combat Bribery to Foreign Public Officials in International Commercial Transactions shall be ineligible as long as that condition exists.

SECTION 28°.- EXCESSIVELY LOW OR NOT SERIOUS PRICE. In procedures where the issuance of evaluation certificate shall not be compulsory, the Evaluation Commission or the Contracts Operational Unit could request technical reports when with good reason consider that the proposal shall not be complied with in proper form due to excessively low prices according to objective criteria arising from market prices and from bidder evaluation ability.

When the results arising from technical reports state that bill could not be complied with, bid overruling shall be applicable in pertinent lines.

For these purposes some clarifications about the content of the bid could be requested to bidder without changing it.

SECTION 29°.- BIDS TIE-BREAKING. In case of equal prices and quality, rules about preferences stated by current regulations, shall be applied in the first place.



In case the equality continues, respective bidders shall be invited to state a prices improvement.

For that purpose, day, time and place shall be fixed and bidders shall be call together to tie-break and the corresponding minute shall be written.

If one of the bidders does not appear, it shall be considered that he keeps his original proposal.

If tie-break continues, the public drawing of tie-breaking bids, shall be performed. For that purpose, day, time and place of public drawing shall be fixed and bidders shall be call together to tie-break. Drawing shall be performed in the presence of those interested, if they are present, and the corresponding minute shall be written.

SECTION 30.- EVALUATION RULING DISCLOSURE. Bids evaluation ruling shall be disclosed to all bidders within TWO (2) days of its issuance.

SECTION 31.- EVALUATION RULING CHALLENGE. Bidders could challenge evaluation ruling within THREE (3) days of its disclosure, those who are not in this position could challenge it within THREE (3) days of its disclosure in the CONTRACTING NATIONAL OFFICE internet site or in the internet site of the contracting electronic system, in both cases, before submitting the challenge guarantee.

SECTION 32°.- CHALLENGE GUARANTEE. Challenge guarantee shall be made up of:

- a) Evaluation ruling challenge of bids: THREE PERCENT (3%) of the bid of line or lines amount in whose favor the contract is advised to be awarded.

If the evaluation ruling for challenged line or lines advises not to award any bid, the challenge guarantee cost shall be calculated on the basis of the bid of line or lines amount of the challenger.

If the challenger were someone who has not a bidder position in this procedure or for the line or lines under discussion and the evaluation ruling for the line or lines to be challenged advises not to award any bid, the cost of the challenge guarantee shall be equal to the fixed amount stipulated in the respective special bidding terms and conditions.

When not challenging one or several specific lines but general or particular issues of the evaluation ruling, the cost of challenge guarantee shall be equal to the fixed amount stipulated in the special bidding terms and conditions.

When the recommendation of one or several specific lines is challenged and, besides, general and particular issues of the evaluation ruling, the challenge guarantee cost shall be calculated accumulating costs arising from previously applied stipulated criteria.

- b) Pre-selection ruling challenge: in challenge cases against pre-selection, in tenders or bids of multiple phases, guarantee cost shall be the determined by the amount appearing in the special bidding terms and conditions.
- c) In those selection procedures where quotations could consider the benefits to be free, or involve an income for the jurisdiction or contracting entity, challenge





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guarantees to the evaluation ruling shall be stated as a fixed amount in the respective special bidding terms and conditions.

Challenge bonds/guarantees shall be reimbursed to the challenger only if challenge is solved favorably.

SECTION 33°.- REGISTRY IN ENTITIES SINGLE LIST. To become awardee, the bidder should be registered in the Entities Single List of the Financial Information System managed by the Ministry of Treasury and Public Finances in accordance with Order N° 40 of National General Accountancy and N° 19 of National General Treasury dated on July 8, 2010, both mentioned in the cabinet ministry or those replacing them in the future.

SECTION 34°.- TERMINATION OF PROCEDURE. The termination of procedure administrative act shall be informed to the awardee or awardees and to the other bidders, within THREE (3) days of the mentioned respective act.

Awarding shall be given to more convenient bid for jurisdiction or contracting entity. It could be awarded even when only one bid has been submitted.

Awarding could be granted by line or group of lines, according to the special bidding terms and conditions.

In those cases where several lines have been distributed in the same item, awardings shall be granted considering the quoted item regardless of the line in which the provider has offered.

In cases where partial quotation is permitted, awarding could be partial even when the bidder had quoted for the total amount of the requested quantity for each line.

SECTION 35°.- NOTICE FOR THE PURCHASE OR SALE ORDER Notice for the purchase or sale order to the awardee will cause the execution of the contract and that notice will take place within TEN (ten) days after the notice of the administrative act of award.

For the case where the period of the above paragraph is due and the notice of the purchase or sale order has not been formalized due to reasons not attributable to the awardee, he may withdraw his bid without the application of any penalty or fines.

SECTION 36°.- CONTRACT SIGNATURE For the cases where the agreement is formalized with a contract, it shall be considered as such when the respective instrument is signed and the awardee shall be notified within TEN (10) days after the notice date of the administrative act of award about the availability of THREE (3) days where the contract is available to be subscribed. If, once the period has expired, the supplier does not sign the corresponding document, the jurisdiction or contracting entity shall notify him by the authorized means and in this particular case the notice shall execute the contract.

For the case where once the period of the above paragraph is due and the notice about the availability of the contract to be signed has not been formalized, the awardee may withdraw his bid without the application of any penalty or fines.



SECTION 37°.- PERFORMANCE GUARANTEE. The co-contractor shall include the performance guarantee within the period of FIVE (5) days after receiving the purchase order or the contract signature.

For international tenders or bids, the term shall be of up to TWENTY (20) days maximum.

The performance guarantee shall be TEN PER CENT (10 %) of the total amount of contract.

SECTION 38°.- CURRENCY OF THE GUARANTEE. The guarantee shall be created in the same currency of the bid. Where the bid is made in foreign currency and the guarantee is constituted in cash or check, the amount of the guarantee shall be deposited in national currency and that amount shall be calculated on the basis of the bank selling exchange rate of the BANCO DE LA NACION ARGENTINA in force at the closing day previous to the date of bond creation.

SECTION 39°.- DIFFERENT GUARANTEES. Section 78 of the Rules approved by Decree N° 1030/16 refers to the guarantees that might be constituted as per the following ways, or by means of combinations among them:

- a) Cash, by means of bank deposit in the account of the jurisdiction or contracting entity, or through draft or wire transfer.
- b) By certified check against a banking entity, with preference of the place where the selection procedure is performed or the domicile of the jurisdiction or contracting entity. The jurisdiction or entity shall deposit the check within the terms ruling these transactions.
- c) By government securities issued by the NATIONAL STATE after December 31, 2001. They should be deposited at the BANCO DE LA NACIÓN ARGENTINA payable to the jurisdiction or contracting entity, with identification of the selection procedure involved. The amount shall be calculated taking into account the securities quotation at the closing of the next to last working date previous to the granting of the guarantee in the stock exchange or appropriate market. The expenses incurred by the execution of the guarantee shall be charged. Any possible surplus shall be subject to the regulations ruling the bond reimbursement.
- d) by bank guarantee or other bid guarantee to the satisfaction of the contracting jurisdiction or entity, making itself the guarantor of joint and single debtors and principal debtor with waiver of the right to excussion and division, according to the terms of the Federal Code of Civil and Commercial Procedures, as well as of the right to prior legal action against the debtor.
- e) by bonding insurance, through policies approved by the REGULATORY BODY OF INSURANCE COMPANIES, in favor of the contracting jurisdiction or entity and which clauses are in conformity with the model and rules that the Enforcement Authority mandates to that effect. Solvency requirements that the insurance companies shall meet with the aim to preserve the eventual collecting of the bonding insurance may be established. The jurisdiction or contracting entity



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shall request the bidder or awardee the substitution of the insurance company, when during the procedure or execution of the contract, the original insurance company stop complying with the requisites previously required.

- f) by appropriation of liquid monetary and enforceable loans that the submitter or awardee has in entities of the NATIONAL ADMINISTRATION, to which effect the interested party shall submit, at the date of the security creation, the corresponding certification and simultaneously, the assignment of the same to the contracting agency.
- g) By sight promissory notes, whenever the amount resulting from applying the appropriate percentage, whether is an offer validity guarantee, a performance or challenge guarantee or whether the fixed amount established in the bidding conditions does not exceed the amount of TWO HUNDRED AND SIXTY MODULES (260 M). This type of guarantee is not combinable with the other listed in this section. The bidder or co-contracting party is entitled to choose the type of guarantee.

The jurisdiction or contracting entity, based on properly documented grounds, shall be able to choose the type of guarantee in the Special Bidding Terms and Conditions.

The offer validity guarantees shall be created for the initial term and its eventual renovations. Every guarantee shall cover the total fulfillment of the obligations undertaken, and they should be created independently for each selection procedure.

**SECTION 40°.- EXCEPTIONS TO THE OBLIGATION OF SUBMITTING GUARANTEES OR SECURITIES.** The need of submitting guarantees shall not apply in the following cases:

- a) Acquisition of periodical publications.
- b) Contracting of advertisements.
- c) When the amount of the bid does not exceed the amount of ONE THOUSAND THREE HUNDRED MODULES (1.300 M).
- d) When the amount of the purchase, sale or contract order does not exceed the amount represented by ONE THOUSAND THREE HUNDRED MODULES (1.300 M).
- e) Procurements for intellectual work contract in a personal capacity.
- f) execution of the obligation within the term of the bond integration. In case of rejection, the term for the bond integration shall be computed since the communication about the rejection and not since the notice of the purchase order or the signature of the corresponding contract. The rejected elements shall be subject to surety and shall not be withdrawn without previously integrating the corresponding security.
- g) when the bidder is a jurisdiction or entity of the National Public Service under section 8 of the Law N° 24.156 and its amendments.
- h) when the bidder is an agency of the province, municipe or the government o the Autonomous City of Buenos Aires.
- i) where provided for each procedure of selection in particular in the Manual of Procedures or in the Bid Specifications.



Nevertheless, every bidder, awardee and co-contracting party is obliged to account for the amount of the not constituted bond, according to the order of penalties charge established in section 104 of the regulations approved by Decree N° 1030/16, at request of the jurisdiction or contracting entity, without pursuing any claims before collection or receipt of payment.

Exceptions provided for in this section do not include counterguarantees.

**SECTION 41°.- TACIT WAIVER.** If bidders, awardees or co-contracting parties would not withdraw the securities within the term of SIXTY (60) calendar days as from the notice date, this shall imply the tacit waiver of the security in favor of the National Government.

**SECTION 42°.- INCREASE OF SECURITIES.** NATIONAL ADMINISTRATION shall not pay any interest for the securities deposits, while the interests accrued by those shall belong to their depositors.

**SECTION 43°.- DELIVERY.** The co-contracting parties shall comply with the obligation within the term, in the place and according to the other conditions set forth in the documents ruling this invitation to bid as well as in the other documents that integrate the purchase or sale order or contract.

**SECTION 44°.- GUIDELINES FOR RECEPTION.** The Reception Commissions will receive the goods on a provisional basis and the receipts and delivery slips signed shall be subject to the reception acceptance.

The supplier shall withdraw the rejected goods within the term established for such purpose by the jurisdiction or contracting entity. Once the term is due, a tacit waiver shall be deemed in favor of the agency, and the goods shall be available to that agency.

Despite any penalties that may be applicable, the supplier with rejected goods shall bear the transportation costs and where appropriate, the ones stemmed from the destruction of those goods.

The acceptance of the final reception shall be granted within the term of TEN (10) days, Since the reception of the goods or services subject matter of the contract, unless otherwise provided in the Special Bidding Terms and Conditions. In absence of any response, once the term is due the supplier will be able to demand the reception. If there is no response from the contracting dependency within the TEN (10) days after the demand reception, the goods or services shall be considered as received accordingly.

For the purpose of executing the reception acceptance, the intervening Commission shall act in accordance with the provisions of Title III, Sole Chapter of the Procedures Manual of the National Administration Contracting Regulations.

**SECTION 45°.- EXTENSION OF COMPLIANCE TERM OF THE OBLIGATION.** The extension of the compliance term of the obligation will only be acceptable where there are



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duly justified grounds and the needs of the jurisdiction or contracting entity allow the satisfaction of the obligation beyond the established term.

The request shall be made before expiration of the term of fulfilling the obligation, stating the reasons for the delay and where admissible, it shall be accepted by the corresponding Reception Commission.

Without prejudice to the acceptance, a penalty for the delay in the delivery shall apply, according to the provisions of section 102, subsection c), paragraph 1 of the regulations approved by Decree Number 1030/16.

For those cases where, without performing the established procedure in this section, the co-contracting party perform the obligation beyond the terms and where the jurisdiction or contracting entity accepts it in virtue of the principle of continuity of contract, the application of a late payment penalty shall also apply, in order to preserve the principle of equal treatment among the interested parties.

**SECTION 46°.- INVOICING.** Invoices shall be submitted once the compliance with the final reception is received, in the manner and in the place designated in the corresponding Special Bidding Terms and Conditions, which shall mark the beginning of the fixed term for the payment.

**SECTION 47°.- TERM OF PAYMENT.** The term for the payment of the invoices shall be THIRTY (30) calendar days, except otherwise provided in the Special Bidding Terms and Conditions.

Nevertheless, payment shall be processed considering the monthly schedule of cash flow and the priorities of expenses included in the regulations in force.

If payment is made in advance, the co-contracting party shall constitute a counter guarantee for the equal amounts received as down payment.

**SECTION 48°.- PAYMENT CURRENCY.** Payments shall be made in the corresponding currency according to the provisions that for that purpose the SECRETARIAT OF TREASURY of the MINISTRY OF TREASURY AND PUBLIC FINANCES determines.

**SECTION 49°.- EXPENDITURE BORN BY THE SUPPLIER.** Supplier shall bear the payment of the following concepts, without prejudice of the ones that can be established in the Special Bidding Terms and Conditions:

- a) Taxes that may apply;
- b) Shipping charges, Customs duty and services and other expenses incurred by any concept in case of rejection of imported goods with clauses of delivery in the country;
- c) Replacement of the destroyed samples, in order to determine if, according to their composition or construction, they match what has been stipulated in the contract (provided that some defects or flaws in materials or structure have been proven).



d) if the product had a special container and it should be returned, the round-freight and handling costs from the same place and by the same delivery methods to be used for the replacement shall be born by the supplier. For these cases, apart from the product, the value of each container shall be specified separately and also the term for replacement if the jurisdiction or contracting entity would not have stipulated that in the particular clauses. If there is a failure in the return of the containers within the stipulated terms, the supplier shall be able to invoice them and start the collection of them, at the prices set forth in the bid, where this procedure will become null and void if the return happened in the meantime.

**SECTION 50°.- INCREASES OR DECREASES.** The jurisdiction or contracting entity shall be entitled to unilaterally increase or decrease the total amount of the contract up to a TWENTY PER CENT (20%) limit.

Where the increase or decrease is essential for the jurisdiction or contracting entity, the TWENTY PER CENT (20 %) can be exceeded and the conformity of the co-contracting party shall be needed. If the compliance is not accepted, no obligation, penalty or fine shall apply to the supplier. In no case the increases or decreases shall exceed the THIRTY FIVE PER CENT (35%) of the total amount of the contract, even with a consent from the co-contracting party.

**SECTION 51°.- ASSIGNMENT OR SUBCONTRACTING.** The subcontracting or assignment of the contract are prohibited in both cases without previous authorization of the same authority that ruled its award. The assigning co-contracting party shall continue jointly and severally obligated to the assignee for the direct commitments of the contract. It shall be verified that the assignee complies with all the requisites off the call for a bid at that moment, as well as at the moment of the assignment. Where there is assignment without said authorization, the jurisdiction or contracting party shall be able to lawfully rescind the contract with cause of termination by the co-contracting party with loss of the performance bond.

In no case with the assignment, the currency and the term of payment can be altered, which must correspond according to the features of the original co-contracting party in virtue of what is established in the regulations about payments issued by the SECRETARIAT OF TREASURY of the MINISTRY OF TREASURY AND PUBLIC FINANCES.

**SECTION 52°.- TYPES OF PENALTIES.** Bidders, awardees and co-contractors shall be liable for the penalties established in SECTION 29 of the Delegate Decree N°1023/01 and its amendments and modifications, whenever there were causes as established in the regulation approved by Decree N°1030/16.

**SECTION 53°.- UNFORESEEABLE CIRCUMSTANCES OR FORCE MAJEURE.** The penalties shall not be applied when the noncompliance of the obligation is caused by unforeseeable circumstances or force majeure, duly documented by the interested party



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and accepted by the contracting jurisdiction or entity, or caused by acts or noncompliance by public national authorities or by the public counterpart, in such a seriousness that place the co-contractor in a situation of reasonable impossibility as regards compliance of their obligations.

The occurrence of unforeseeable circumstances or force majeure, shall be informed to the contracting jurisdiction or entity within TEN (10) days of the occurrence or from the cessation of its effects.

After such term, the unforeseeable circumstance or force majeure shall not be claimed.

SECTION 54°.- WITHDRAWAL, MODIFICATION OR SUBSTITUTION. The withdrawal, modification or substitution of contracts on grounds of opportunity, merit or convenience, shall not give rise to compensation for lost profit, but only to compensation for resulting damage that is duly certified.

SECTION 55°.- RENEGOTIATION. In the case of supplies contracts of successive compliance or services contracts, the renegotiation of awarded prices shall be possibly requested when exogenous and supervening circumstances affect in a decisive fashion the contractual balance.

SECTION 56°.- TYPES OF SANCTIONS. Bidders, awardees and co-contractors shall be liable for the penalties established in SECTION 29 of the Delegate Decree N°1023/01 and its amendments and modifications, whenever there were causes as established in the regulation approved by Decree N°1030/16.

SECTION 57°.- CONSEQUENCES. Once a suspension or disqualification sanction has been applied, such sanction shall not prevent the compliance of contracts the provider has been awarded or in progress, nor its possible scaling-up or extensions, but new contracts shall not be awarded from the beginning of the sanction term up to the completion of such sanction.



**ANNEX I: CONCOMITANT SPECIAL CLAUSES.**

**LOAN CONTRACT No. 1777/OC-AR – SATELLITE AND TERRESTRIAL OBSERVATION BASED APPLICATIONS SYSTEM DEVELOPMENT PROGRAM (PROSAT), CHAPTER IV.**

CLAUSE 4.02. Acquisitions (a) Acquisition of goods, related services and works. The acquisition of goods, services or works enumerated on the list of eligible expenses described on the aforementioned Clause 4.01, shall be conducted in compliance with the laws in force in the Republic of Argentina, provided that it meets the standards of competence, economy, transparency, publicity, equality, efficiency and due process thoroughly described in GN-2278-3, from April 13th 2006 (footnote N°7), which the Executing Entity affirms knowing, and that the following conditions are observed:

- (i) Every works contract shall include a price redetermination methodology; both the price and the methodology should be admissible to the Bank;
- (ii) In order to be able to tender bids or to be awarded a contract, offerors shall not be required to comply with any of the following eligibility conditions: (A) to be registered in Argentina; (B) to have an agent in Argentina; (C) to be a business partner or a subcontractor of an Argentine firm.
- (iii) Invitations to submit offers, bidding documents, tender opening documents, and offer evaluation reports shall be published on a sole, free access website that should be admissible to the Bank;
- (iv) Contracts with foreign contractors and providers shall include the international arbitration procedure as a method to settle controversies that the parties cannot solve by mutual agreement.
- (v) Once the opening of tenders has been publicly conducted, no information on the analysis, clarification and evaluation of bids as well as awarding recommendations should be disclosed to offerors or to parties that are not officially involved in this process until the actual tender has been awarded; and
- (vi) The offeror who submits the lowest bid shall not be required to lower its price as a condition for awarding.





**ANNEX II: QUOTATION FORM**

**Contract type:**

**Proceeding number:**

**Objective:**

**Offeror Name and Surname or Corporate Name:**

Description	Unit Price	Total Price
R 1:		
R 2:		
R 3:		
<b>Total amount</b>		<b>\$ .....</b>

Delivery Term	
Delivery Place	
Payment method	
Bid validity period	
Tasks/ goods warranty	
True copy of the registration form at the tax entity of the country of origin or equivalent certification	

-----  
SIGNATURE AND PRINTED NAME  
(Attorney with sufficient legal capacity)



**TECHNICAL ANNEX III**

**High Data Rate Receiver for SAOCOM Mission.**

<b>ITEM : DEMODULATOR</b>
<b>UNIT – CORTEX 4G SPRINT</b>
The basic building blocks that the unit must have are the following:
1) High Data Rate (HDR) Dual-Channel Demodulator
1) High Data Rate (HDR) Test Modulator
1) Front End Processing Capabilities (FEP) for both demodulation channels
The unit must be able to receive and process the following CONAE missions:
<b>1.1 SAOCOM mission:</b>
1) Two (2) simultaneous downlink channels with the following characteristics each:
<i>Modulation: 4D-8PSK-TCM</i>
<i>Coding: 254/238 Reed-Solomon <math>t=8</math> + TCM convolutional 5/6</i>
<i>Baud rate: 66.65 Mbaud</i>
<i>Useful data rate: 155.52 Mbps</i>
<i>Stuffing sync words: 96h (first block), 69h (fifteen following blocks)</i>
<i>Mission sync. Words: B8h (first block), 47h (fifteen following blocks)</i>
<i>Data randomization: polynomial <math>1+X^{14}+X^{15}</math>, the pseudo-random sequence being initialized with 100101010000000 at each transport frame (16 blocks of 238 bytes)</i>
<i>Matrix interleaving: with a depth of 16 RS coded blocks. A matrix interleaver 16 rows/254 columns is applied to the encoded blocks. Blocks of 254 bytes are written row by row with the first byte in the first cell. When the interleaver is full, it is read column by column (byte by byte) creating so a group of structure interleaved of 254 bytes</i>
1) The unit must be able to receive and process (demodulate, etc.) data transmitted by the 8PSK Transmitter of SAOCOM mission.
<b>1.2 HDR Dual-Channel Demodulator characteristics (per channel)</b>
<b>1.2.1 IF input signal:</b>
<b>1.</b> Connector type: SMA
→ Two inputs per channel: Nominal and Alternative
1) Level: -50 dBm to -10 dBm
1) Impedance: 50 ohm



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1) VSWR: < 1.5
1) Input frequency: 720 MHz ±190 MHz
1) AGC time constant: 1 ms Typical
1) Search range: from ±10 KHz to ±1MHz
<b>1.2.2 Demodulation and Bit Synchronization:</b>
1) Demodulation: BPSK, QPSK, SQPSK, UQPSK, AQPSK, 8PSK
1) Coding:
<i>CCSDS compliant Viterbi</i>
<i>CCSDS compliant TCM for 8PSK (4D-8PSK-TCM CCSDS 2/3, 2.25/3, 2.5/3, 2.75/3)</i>
<ul style="list-style-type: none"><li>• Maximum Bit rate</li></ul>
<i>BPSK: 240 Mbps, or better.</i>
<i>QPSK: 480 Mbps, or better</i>
<i>8PSK: 240 Mbps, or better. Maximum symbol rate 120 Mbaud, or better.</i>
<ul style="list-style-type: none"><li>• Acquisition time: &lt; 250ms</li><li>• Doppler measurement:</li></ul>
<i>Doppler rate: &lt; 10 KHz/s</i>
1) Carrier phase ambiguity resolution:
<i>Automatic PSK Ambiguity Resolution (QPSK, OQPSK, BPSK, AQPSK, UQPSK)</i>
<i>8PSK: ambiguity resolution differential decoding.</i>
1. Base-band matched filter:
<i>Integrate and dump filter.</i>
<b>1.</b> BER degradation (at BER = 10E-6):
<i>QPSK up to 400 Mbit/s: &lt; 0.5 dB</i>
<i>QPSK from 400 Mbit/s to 500 Mbit/s: &lt; 1 dB</i>
<i>8PSK up to 250 Mbit/s: &lt; 0.5 dB</i>
1) Acquisition threshold:
<i>QPSK: <math>E_s/N_0 &lt; 1</math> dB</i>
<i>8PSK: <math>E_b/N_0 &lt; 3.5</math> dB</i>
1) $E_b/N_0$ measurement available at the Graphical User Interface.
1) FI filter selectable between:
<i>Adjacent channel rejection</i>
<i>matched filter</i>



Custom FIR.

### 1.2.3 FILTERS

- DEAF

1) X-DEAF (including XPD measurement)

### 1.2.4 Base Band Interface specifications:

1) Demodulator data and clock output: ECL Differential

- Connector type: SMA or BNC

1) Impedance: 50  $\Omega$

1) Output ECL differential (DATA+, DATA-, CLOCK+, CLOCK-) for raw demodulated data (FEP off) and processed data (i.e. frame synch, decoded, etc.) (FEP on).

→ CLOCK output polarity: normal / inverted (selectable).

1) DATA output polarity: normal / inverted (selectable).

2) Network Socket outputs 2x10GbE (RJ45)(new)

3) Network Socket outputs 2x10GbE (Fiber) ()

### 1.2.5 Variable Coding & Modulation (VCM)

1) DVB-S2

### 1.3 Monitoring:

- BER measurement at GUI

1) BER counter PN code: configurable to at least:  $2^{23} - 1$ ,  $2^{15} - 1$ ,  $2^{11} - 1$ ,  $2^{10} - 1$

1) Real time constellation analysis and spectral analysis.

2) Spectrum display

3) Eb/No measurement

4) Frequency measurement by integrated Phase

5) Bit Rate offset

6) XPD measurement

### 1.4 CCSDS Data processing

7) RAW

8) CCSDS CADU

9) CCSDS VCDU

10) CCSDS CFDP



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<b>1.5 Storage and Real Time TCP-IP output:</b>
<ul style="list-style-type: none"><li>• Internal Storage 10TB – SSD (RAID 6): 10 Tbytes capacity provide a high speed dual channel recording (up to 500Mbps per channel)</li></ul>
<ul style="list-style-type: none"><li>• Real Time TCP IP Output:</li></ul>
a) Must work simultaneously when a standard ECL Data + Clock stream is outputted from the demodulator. Must be possible to output on TCP-IP the “raw-data” just out of the demodulator without any frame-sync performed, or CADU data (out of the frame-sync), or VCDU data (CADU after VCDU filtering).
<ul style="list-style-type: none"><li>• Data must be broadcasted in real time up to 560Mbps per Ethernet Gigabit connector</li></ul>
<b>1.5 Error correction coding:</b>
CCSDS Viterbi decoder.
CCSDS Trellis Code Modulation decoder.
<b>1.6 Reference Frequency:</b>
<ul style="list-style-type: none"><li>• External reference input characteristics:</li></ul>
<i>Connector: SMA</i>
<i>Impedance 50 <math>\Omega</math></i>
<i>Level: 0.5 to 10 Vpp</i>
<i>Frequency: 10 MHz (sinusoidal or square).</i>
<ul style="list-style-type: none"><li>• Characteristics de Reference Internal:</li></ul>
<i>Frequency: 10MHz</i>
<i>Frequency stability: &lt; <math>\pm 5</math> ppm (&lt; <math>\pm 15</math> ppm vs temperature variations (10o to 40o C))</i>
<b>1.7 Time Code Reference:</b>
<i>1 input.</i>
<i>Time Code: IRIG-B.</i>
<i>Input level: 0.8 a 8Vpp</i>
<i>Impedance: 100Kohm</i>
<i>Flywheel capability</i>
<i>Time tagging accuracy: <math>\pm 50</math> uS</i>
<b>1.8 Factory Pre-Configured missions:</b>
<ul style="list-style-type: none"><li>• The demodulator must be able to receive and support SAOCOM's missions:</li></ul>
All the configuration parameters for these missions shall also be programmable by the user. In addition, must be able to add and configure new missions by the user.



<b>1.9 Front End Processing Capabilities</b>
<ul style="list-style-type: none"><li>• Must be able to process SAOCOM mission</li><li>• Must be present in both demodulation channels.</li><li>• Frame synchronizations capabilities.</li><li>• Reed-Solomon (254, 238) t=8.</li><li>• Matrix de-interleaving with a depth of 16 RS coded blocks.</li><li>• De-scrambling: following the polynomial <math>1+X^{14} + X^{15}</math>, the pseudo-random sequence being initialized with 1001 0101 0000 0000 at each transport frame (16 blocks of 238 bytes)</li><li>• TCP/IP real time data interface (up to 2 x 1Gbps)</li><li>• Storage data and delayed transference over TCP/IP (i.e.: ftp)</li></ul>
<b>1.10 HDR Modulator characteristics</b>
<ul style="list-style-type: none"><li>• Must be able to work with the same missions as the demodulator.</li><li>• Modulation: BPSK, QPSK, SQPSK, UQPSK, AQPSK, 8PSK, 16APSK, 32APSK, 64APSK</li><li>• Coding: <i>CCSDS Viterbi encoding</i> <i>CCSDS Trellis Code Modulation encoding for 8PSK (4D-8PSK-TCM, CCSDS 2/3, 2.25/3, 2.5/3, 2.75/3)</i></li></ul>
<ul style="list-style-type: none"><li>• Bit rate <i>BPSK: 240 Mbps, or better.</i> <i>QPSK: 480 Mbps, or better.</i> <i>8PSK: 240 Mbps, or better. Symbol rate 120 Mbaud, or better.</i></li></ul>
<ul style="list-style-type: none"><li>• Per factory-pre-configured mission configuration and user programmable configuration.</li><li>• Modulation source from internal data: programmable PRBS pattern generator, with at least the sequences <math>2^{23}-1, 2^{15}-1, 2^{11}-1, 2^{10}-1</math>.</li><li>• Modulation data sources from external data: The unit must accept external data and clock input and files on disk.</li><li>• Noise generator function capability <i>Noise density: -95 dBm/Hz to -130 dBm/Hz with 0.1 db precision .</i> <i>Noise bandwidth: 520 – 920 MHz or higher</i></li></ul>
<ul style="list-style-type: none"><li>• Doppler simulator.(desirable)</li><li>• Signal interfaces: <i>IF output frequency: 720 MHz . Two ports.</i> <i>Output level according with the demodulator IF input level range.</i></li></ul>



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*Data and clock inputs: ECL*

*diferencial, SMA or BNC connectors.*

- Reed-Solomon encoding, matrix interleaving, scrambling and randomization capabilities according to the FEP technical characteristics. (desiderable)
- Multi-channel modulation 2 IF
- VCM Modulation
- Data Playback

### **1.11 General Characteristics**

### **1.12 Monitor and Control interface**

- Local GUI
- TCP/IP over an Ethernet connection

### **1.13 Software and mission configuration upgrade:**

- Software and mission configuration upgrade must be possible at customer site through standard interface (i.e. serial, TCP/IP, CD, etc.)

### **1.14 Mechanical specifications:**

*Height: 4 rack units maximum (7 inch)*

*Width: 19-inch rack mountable chassis.*

*Depth: 550mm maximum*

### **1.15 Power:**

- Voltage between 90 and 240 V, frequency between 47 and 63 Hz, autoswitch.

### **1.16 Documentation to be provided with the unit:**

- In electronic and hard-copy format:

*Safety and Handling Recommendations*

*Installation Manual*

*User Manual*

*Technical Characteristics*

*Interface Control Document*

*Factory Acceptance Test Procedure*

*Factory Acceptance Test Reports*

### **1.17 Backup and restore:**



<ul style="list-style-type: none"><li>• A CD/DVD backup copy must be provided with the unit, to restore the Operative System, installed software, configurations and default factory settings.</li></ul>
<b>1.18 Compliance to regulations:</b> <ul style="list-style-type: none"><li>• The unit must be CE compliant.</li></ul>
<b>1.19 Warranty &amp; Support:</b> <ul style="list-style-type: none"><li>• Standard Warranty</li></ul>
<b>1.20 Mean Time Between Failures</b> <ul style="list-style-type: none"><li>• The MTBF must be bigger than 5.5 years (48200hs).</li></ul>
<b>1.21 Plastic ruggedized box for transportation</b>

## Telemetry, Telecommand and Ranging unit for SAOCOM Mission Support

### 1. General Requirements

1.1. CORTEX Q units must support SAOCOM mission requirements, keeping compatibility with SAC-D mission.

1.1.1. During a pass, one unit will operate in its nominal condition, while the other will act as a backup.

1.1.2. If there are simultaneous passes, each unit will serve one of the spacecrafts under sight.

1.2. Full compatibility with CORTEX XL-2 units acquired for SAC-D and SAOCOM missions, according to the specifications in the document “0005001699 CONAE AIT XL2 Rev1”.

1.3. Doppler and ranging capabilities support.

1.3.1. Ranging tones from 2 Hz up to 500 kHz (up to 300 kHz for code ranging).

1.3.2. ESA standard tones (100 kHz, 20 kHz, 16 kHz, 16.8 kHz, 16.16 kHz, 16.032 kHz, 16.008 kHz)

1.3.3. ESA-like tones (user configurable major tone and minor tones frequency set)

1.3.4. ESA-code (user configurable tone frequency, ESA standard pseudo-random sequences)

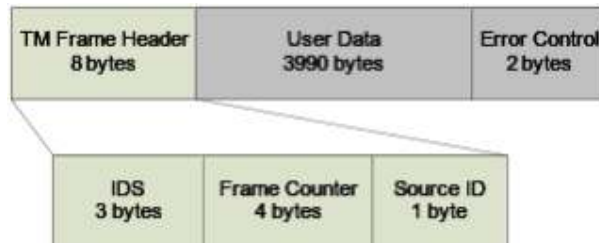
1.4. Compliance with CONAE telemetry (TM) and telecommands (TC) frames:

1.4.1. CONAE TM frame specifications:



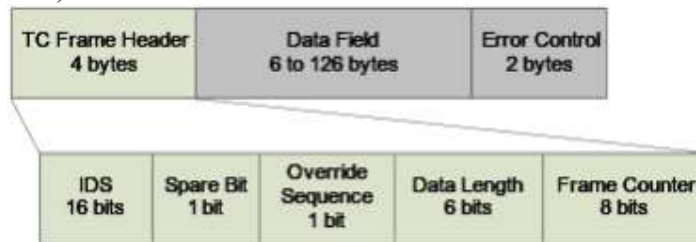


CONAE TM frames are 4000 bytes long, have 3 bytes IDS and 2 bytes CRC (Error Control).



1.4.2. CONAE TC frame specifications:

CONAE TC frames are between 12 and 132 bytes long, have 16 bits IDS and 2 bytes CRC (Error Control).



1.5. TC and TM streams

support:

1.5.1. Support to one CONAE frame compliant, low bit-rate (LBR), real-time TC uplink (up to 4 kbps) for both SAC-D and SAOCOM missions.

1.5.2. Support to one CONAE frame compliant, LBR, real-time TM downlink (up to 4 kbps) for both SAC-D and SAOCOM missions.

1.5.3. Support to one CCSDS compliant, high bit-rate (HBR), stored TM downlink (up to 4 Mbps) for SAOCOM mission.

1.5.3.1. Virtual channel (VC) demultiplexing (extraction and processing) is performed through VCID filtering (VCID selection).

1.5.3.2. Stored TM downlink carries a real-time TM VC, which should be able to be extracted (using VCID filtering) right after the frame has been received.

1.5.4. CRC (Error Control field) verification on TM frames (on both LBR and HBR downlinks).

1.6. TM processing capabilities:

1.6.1. TC and TM (LBR and HBR, simultaneously) simultaneous processing.

1.6.2. TM HBR must be able to solve the 8 (eight) OQPSK ambiguities.

1.6.3. The unit must be capable of, simultaneously:

1.6.3.1. Raw (bit synchronized) TM frames storage on the unit's hard disk.

1.6.3.2. TCP/IP output of raw TM frames (LBR and HBR). This feature must be able to be enabled or disabled.

1.6.3.3. TCP/IP output of frame-synchronized TM frames (LBR and HBR).



1.7. IF interfaces support for RF communications with the spacecraft:

1.7.1. 70 MHz IF, PM/BPSK/NRZ-M interface for the LBR TM downlink.

1.7.2. 70 MHz IF, QPSK/NRZ-M interface for the HBR TM downlink.

1.7.3. 70 MHz IF, PM/BPSK/NRZ-M interface for the LBR TC uplink.

1.7.4. 70 MHz IF, PM/BPSK/NRZ-M and QPSK interface for TMS uplink.

1.8. LVTTTL interfaces support for base-band communications with the spacecraft:

1.8.1. LVTTTL output interfaces (DATA and CLOCK) for CONAE frame-compliant, LBR TM.

1.8.2. LVTTTL output interfaces (DATA and CLOCK) for CCSDS-compliant HBR TM.

1.8.3. LVTTTL input interfaces (DATA and CLOCK) for CONAE frame-compliant, LBR TC.

1.9. RS-422 interfaces support for base-band communications with the spacecraft:

1.9.1. RS-422 output interfaces (DATA and CLOCK) for CONAE frame-compliant, LBR TM.

1.9.2. RS-422 output interfaces (DATA and CLOCK) for CCSDS-compliant HBR TM.

1.9.3. RS-422 input interfaces (DATA and CLOCK) for CONAE frame-compliant, LBR TC.

## 2. **SAOCOM system requirements**

2.1. TM and TC communications requirements:

	Telemetry (TC) IF Downlink		Telecommand (TC) IF Uplink
	LBR	HBR	LBR
Frequency	70 MHz	70 MHz	70 MHz
Bandwidth	300 kHz	$\leq 5$ MHz	100 kHz
Sub-carrier	80 kHz	-	16 kHz
Data Rate	4 kbps	4 Mbps	4 kbps
Modulation	NRZ-M/BPSK/PM	NRZ-L/QPSK	NRZ-M/BPSK/PM
Encoding	-	Viterbi (R=1/2; K=7)	-
Frame Format	CONAE	CCSDS	CONAE

## 3. **Telemetry, Telecommand and Ranging modules requirements**

Function	Description
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Telemetry	<p>One Low Bandwidth Subcarrier chain (TMU-A) :</p> <ul style="list-style-type: none"> <li>BR = 10 bps to 25 kbps, SCF = 40 Hz to 128 kHz</li> <li>PM demodulation at IF</li> <li>Signal input at IF : IF NOM or IF ALT or AUX (test purpose only)</li> <li>Signal input at baseband : AUX (IF receiver set to by-pass mode)</li> </ul> <p>One High Bandwidth Subcarrier chain (TMU-C) :</p> <ul style="list-style-type: none"> <li>BR = 100 bps to 600 kbps, SCF = 5 kHz to 2 MHz</li> <li>PM demodulation at IF</li> <li>Signal input at IF : IF NOM or IF ALT or AUX (test purpose only)</li> <li>Signal input at baseband : AUX (IF receiver set to by-pass mode)</li> <li>Signal input/output : test set # 3 (RS422) or # 1 (TTL)</li> </ul> <p>One High Bandwidth TM chain direct PCM (TMU-B) :</p> <ul style="list-style-type: none"> <li>Viterbi &amp; R-S decoding capability</li> <li>BR = 100 bps to 9.5 Mbps (modulation dependant)</li> <li>PCM/PM, BPSK, QPSK &amp; OQPSK demodulation at IF</li> <li>Signal input at IF : IF NOM or IF ALT</li> <li>Signal input/output : test set # 4 (RS422) or # 2 (TTL).</li> </ul>
Telecommand	<p>High Bandwidth TCU :</p> <ul style="list-style-type: none"> <li>Subcarrier or direct PCM modulation at baseband</li> <li>BR = 100 bps to 1 Mbps; PSK SCF = 5 kHz to 2 MHz</li> <li>FM, PM, BPSK, QPSK modulation at IF</li> <li>Signal input/output at TTL : Test Set # 3 (RS422) or # 1 (TTL)</li> </ul>
Ranging	High bandwidth, up to 500 kHz major tone
TM Simulator	<p>High Bandwidth TMS :</p> <ul style="list-style-type: none"> <li>Simulation of HBW TM direct PCM or with sub-carrier (down to 5 kHz SCF)</li> <li>R-S encoding capability (Pseudo and File mode only)</li> <li>Viterbi encoding capability</li> <li>Signal input/output at TTL : test set # 4 (RS422) or # 1 (TTL)</li> </ul>
IF Modulator	IFM in Video+PCM mode
Diversity Combiner	Yes, Post Detection
Noise Generator	Available
Warranty	Standard
Power:	Voltage between 90 and 240 V, frequency between 47 and 63 Hz, autoswitch.
Shipment Container	Plastic ruggedized box for transportation
L/S - Band Input and Output for CRT-Q	2 L/S-Bd Inputs & 1 L/S-Bd Outputs Usual 70 Mhz legacy Inputs/Outputs remain available..



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Recovery Method	Should include a method to restore the factory configuration and
Mean Time Between Failures	The MTBF must be bigger than 5.5 years (48200hs).

Diagrama en bloques de la unidad:

