



**Air Navigation Services
of the Czech Republic**

**Contract for Work
and
Service Contract**

“Renewal of PISEK and BUKOP radar systems”

Concluded in accordance with § 2586 et. seq. and § 1746, paragraph 2 of the Act No. 89/2012 Coll.,
Civil Code as amended (hereinafter referred to as the “**Civil Code**”):

(hereinafter referred to as the “**Contract**”)

1 Parties

Air Navigation Services of the Czech Republic (ANS CR),

A state enterprise incorporated under the laws of the Czech Republic,
having its registered office at: Navigační 787, 252 61 Jeneč, Czech Republic,
Company Identification Number: 49710371

Represented by: Jan Klas, Director General

VAT Identification Number: CZ699004742

IBAN: CZ12 0300 1712 8000 0008 8153

SWIFT code: CEKOCZPP

Registered in the Commercial Register administered by the Municipal Court in Prague, under Ref.
No.: Section A, Insert 10771,

(hereinafter referred to as the “**Client**”)

and

ELDIS Pardubice, s.r.o.

a company incorporated under the laws of the Czech Republic,
having its registered office at Dělnická 469, Pardubičky, 533 01 Pardubice, Czech Republic,
Company Identification Number: 15050742

Represented by: Aleš Jedlička, Managing Director; Tomáš Müller, Managing Director; and Tomáš
Viček, Managing Director. The company is always represented by two managing directors together.

Bank account number: 272067073/0300, EUR

IBAN: CZ47 0300 0000 0002 7206 7073

SWIFT code: CEKOCZPP

VAT Identification Number: CZ699003219

(hereinafter referred to as the “**Contractor**”)

Each individually referred to as the „**Party**“ or collectively as the „**Parties**“

2 Definitions

As used in this Contract, the terms below shall have the following meanings:

Client's representative

Client's representative shall mean the representative to be appointed by the Client, who shall be authorised to act for and on behalf of the Client with respect to the matters mentioned in this Contract.

The Contractor's representative

The Contractor's representative shall mean the representative to be appointed by the Contractor, who shall be authorised to act for and on behalf of the Contractor with respect to the matters mentioned in this Contract.

Day

The "Day" means calendar day. The "Working day" means the working day according to the Contractor's calendar for factory activities and working day according to Czech calendar for on-site activities.

Defect

Defect means any ascertained discrepancies with reference to the Technical specifications or any other part of Documentation.

Documentation

Documentation shall mean all the information, data, coverage diagrams, designs and drawings to be delivered by the Contractor to the Client under this Contract, concerning the installation, verification, acceptance, operation use and maintenance of the equipment.

Hardware

Hardware is the unit, apparatus and other physical device with determined function.

Installation

Installation shall mean all operations to be performed by the Contractor regarding installation, testing and commissioning of the Equipment on the Site.

LRU

Lowest Replaceable Unit

SKU

Stock Keeping Unit

Month

The "month" means a period of 30 (thirty) consecutive running days.

Services

Services shall mean altogether Installation, Calibration, Tuning and Training course to be provided by the Contractor under this Contract.

Site

Site shall mean each of the places and/or buildings located in PISEK or BUKOP where the Equipment is to be installed by the Contractor under the Contract.

Software

Software means a computer program with any relevant documentation developed by the Contractor the frame of the Contract, provided that they are expressly defined as a part of the performance.

Radar System

Primary radar and secondary radar in collocated configuration and RADOME.

Spare part

Spare part is defined as an individual part, subassembly or assembly, needed for the maintenance or repair of a radar. Each LRU shall be considered as spare part.

TAT

Turn Around Time is defined as the time elapsed between the date of arrival of the faulty covered item to the Contractor's premises and the date of shipment of the repaired (or replaced) covered item from the Contractor to the Client.

Technical Specification

Technical Specification shall mean the features and characteristics of the Equipment and services being the subject matter of this Contract.

Trainee

Trainee shall mean each of the Client's employees to attend part or whole of the Training course.

Training course

Training Course shall mean the training course sessions to be organised by the Contractor for the Client's employees maintaining the Equipment.

3 Subject of the Contract

3.1 Upon the terms and subject to the conditions herein contained, the Contractor undertakes to provide the Client:

3.1.1 **Equipment:** primary (PSR) and secondary (MSSR) radars including RADOME for the PISEK and BUKOP locations - specified in more detail in the Article 3.2 of this Contract and in the Annex 1 – 6 and 10 of the Contract, that forms an inseparable part of the Contract (hereinafter referred to as the "**Equipment**").

3.1.2 **Post - Warranty service support** – starting when the Warranty period for each Radar system stated in the Article 20.4 of this Contract expires - for the remaining period of an effectiveness of this Contract according to the Article 27.1 of this Contract (15 years after the signature of SAT certificate of the BUKOP Radar system).

3.2 **The Equipment** consists of the following work packages (specified in more detail in the Annex 1 – 6 and 10 of the Contract):

3.2.1 a provision of hardware, software and licenses required for the Equipment;

3.2.2 an installation of the Equipment;

3.2.3 a provision of spare parts – according to the Annex 7 of this Contract

3.2.4 CDR, FAT, SAT;

3.2.5 a provision of complete Technical documentation of the Equipment - in English or Czech language, in electronic form in Microsoft Office formats and in pdf;

3.2.6 Training course.

3.3 Post – Warranty service support consists of:

- 3.3.1 Post-warranty service readiness.
- 3.3.2 Service interventions.
- 3.3.3 Individual Repairs

(see the Article 21 of the Contract for more details)

(subject of the Contract described in the Articles 3.1, 3.2 and 3.3 of the Contract hereinafter referred to as the "**Subject of the Contract**").

- 3.4 The Contractor undertakes to perform the Subject of the Contract duly and in time. The Client hereby undertakes to pay the Contractor a price for the Subject of the Contract under the terms and conditions herein contained. The price for the Subject of the Contract is stated in the Article 4 of the Contract.

4 Price for the Subject of the Contract

- 4.1 The price for the Subject of the Contract duly carried out according to the Contract is set by an agreement between the contracting Parties in accordance with the Prices Act 526/1990 Coll. The price for the Subject of the Contract includes all Contractor's costs, charges, duties, licenses, warranty according to the Article 20 of this Contract, and all other expenses related to the performance of the Subject of the Contract and covers all other services, rights, installation, configuration and delivery provided by the Contractor. Any change of the total contractual price has to be performed by a written addendum concluded by both Parties in accordance with the Act no. 134/2016 Coll, the Public Procurement Act, as amended.

- 4.2 The total price for the Subject of the Contract is set by the Parties as the maximum price and shall be

10 545 458 EUR

(in words: ten million five hundred forty-five thousand four hundred fifty-eight EUR)
excluding VAT

- 4.3 The price for the Subject of the Contract consist of following parts:

- 4.3.1 **Fixed price for the Equipment** specified in the Articles 3.1.1 and 3.2 of this Contract and in the Annexes 1 – 6 and 10 of this Contract.

- 4.3.2 **Maximum price for the Post – Warranty service support** specified in the Article 21 of this Contract.

- 4.4 Detailed breakdown of the price for the **Equipment** is described in the Annex 7 of the Contract that forms an inseparable part of the Contract.

- 4.5 Price for the Post – Warranty service support consists of following parts:

- 4.5.1 **Price for the Post-Warranty service readiness** according to the Article 21.4 letter a) of this Contract (one price for both Radar systems) – has been agreed by the Parties on:



The price for the Post – Warranty service readiness will be paid by the Client from the time when the Warranty period for the PISEK Radar System stated in the Article 20.4 of this Contract expires.

- 4.5.2 **Price for Service interventions** (according to the Article 21.4 letter b) of this Contract) – the service rate per one hour work of technical expert for these services has been agreed by the Parties on:

██████████ - ██████████ for on – site interventions.

██████████ for off – site interventions.

Total payment depends on a number of interventions, which has been done in each month based on monthly report approved by the Client.

- 4.5.3 **The price of repairs** shall be charged by the Contractor and shall not exceed the price defined in the price list set forth in the Annex 8 of this Contract. The price of individual repairs includes all costs connected with the repair, in particular the price for the HW, price for the work of technical expert and transportation. The price list limits repairs priced above ██████████. The price of repairs below ██████████ shall be subject to agreement between the Parties.

5 Payment Terms

- 5.1 The payment to the Contractor under this Contract shall be made in EUR free of any bank charges, in favor of the Contractor to its bank account, which is specified in the Article 1 of this Contract.

- 5.2 The terms of payment for the Subject of the Contract shall be set as follows:

5.2.1 upon a signature of the CDR Certificate of the PISEK Radar system (according to the Article 9 of this Contract), the amount of ██████████ is 20 % of the total price of the PISEK Radar system stated in the Annex 7 of this Contract, shall be paid by the Client against an invoice issued by the Contractor. A copy of CDR Certificate shall be attached to the invoice.

5.2.2 upon a signature of the FAT Certificate of the PISEK Radar system (according to the Article 10 of this Contract), the amount of ██████████ which is 40 % of the price of the PISEK Radar system stated in the Annex 7 of this Contract, shall be paid by the Client against an invoice issued by the Contractor. A copy of FAT Certificate shall be attached to the invoice.

5.2.3 upon a signature of the SAT Certificate of the PISEK Radar system (according to the to the Article 11 of this Contract), the amount of ██████████ which is 40 % of the price of the PISEK Radar system stated in the Annex 7 of this Contract, shall be paid by the Client against an invoice issued by the Contractor. A copy of SAT Certificate shall be attached to the invoice.

5.2.4 upon a signature of the CDR Certificate of the BUKOP Radar system (according to the Article 9 of this Contract), the amount of ██████████

- ██████████ is 20 % of the total price of the BUKOP Radar system stated in the Annex 7 of this Contract, shall be paid by the Client against an invoice issued by the Contractor. A copy of CDR Certificate shall be attached to the invoice.
- 5.2.5 upon a signature of the FAT Certificate of the BUKOP Radar system (according to the Article 10 of this Contract), the amount of ██████████ which is 40 % of the price of the BUKOP Radar system stated in the Annex 7 of this Contract, shall be paid by the Client against an invoice issued by the Contractor. A copy of FAT Certificate shall be attached to the invoice.
- 5.2.6 upon a signature of the SAT Certificate of the BUKOP Radar system (according to the to the Article 11 of this Contract), the amount of ██████████ which is 40 % of the price of the BUKOP Radar System stated in the Annex 7 of this Contract, shall be paid by the Client against an invoice issued by the Contractor. A copy of SAT Certificate shall be attached to the invoice.
- 5.2.7 The price for the Training course shall be expressed separately in the invoice after its successful completion.
- 5.3 **Payments for the Post – Warranty service readiness** according to the Article 4.5.1 of this Contract shall be paid in the form of quarter calendar year payments. The quarter calendar year payment shall be fixed to the amount of ██████████ shall be paid by the Client for each quarter of the calendar year, based on an invoice issued by the Contractor at the last day of the calendar quarter. If the Contract becomes effective during the calendar quarter, the payment will be paid in an aliquot amount.
- 5.4 **Payments for the Service interventions** according to the Article 4.5.2 of this Contract shall be made on the basis of actually provided man-hours in particular calendar month, in which the service interventions has been done. A statement of actually performed man-hours and detailed service report shall be attached to the invoice.
- 5.5 **Payments for the repairs** according to the Article 4.5.3 of this Contract shall be paid based on an invoice issued by the Contractor for all individual repairs performed in the previous month. A statement of actually provided individual repairs and spare parts shall be attached to the invoice
- 5.6 Each invoice, marked with the Client's contract number, which is located in the heading of this Contract, including all its attachments according to the Articles 5.2, 5.4 and 5.5 of this Contract, must be sent in written form on the address of the Client as stated in the Article 1 of this Contract or via email from Contractor's email address ██████████ to Client's email address fakturace@ans.cz, otherwise it shall be returned to the Contractor. The invoice shall be payable within thirty (30) days after receipt by the Client.
- 5.7 The Client may return an invoice if it contains inaccurate or incomplete information or if the price is incorrect. Such return must be made by the due date of the invoice. In such event, the Contractor shall issue a new invoice or correct the original invoice and fix a new due date.

5.8 Inflation clause

With the exception set out below the price for the Post-Warranty service readiness, price for the Service interventions and price for the individual repairs as stated in the Article 4.5 of this Contract and in the Annexes 7 and 8 of this Contract will not be adjusted by inflation. Upon expiry of three (3) years from the day of entering into force of the Contract the price will be revised yearly in accordance with the following calculation:

$$P_2 = P_1 \left(\frac{100+RI}{100} \right)$$

Where P2 is the new price, P1 is the old price and RI is HICP annual rate of change reported for the previous calendar year by EUROSTAT(source - HICP - all items - annual data - average index and rate of change, unit of measure: annual average rate of change) - (https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_AIND/default/table?lang=en) for the state of the registered seat of the Contractor if the Contractor has the registered seat (see the Article 1 of the Contract) within the European Economic Area.

In case of the Contractor with the registered seat (see the Article 1 of the Contract) outside the European Economic Area average HICP of all member states of European Union (currently European Union – 27 states (from 2020) shall be used for RI calculation.

If the RI is less than or equal to 0,5 %, the inflation adjustment provisions of this Contract shall not apply. If the RI is higher than 10%, for the calculation of the price adjustment according to the Article 5.8 of this Contract, the RI is equal to 10%.

The Contractor shall notify the Client in written form the change of the price according to the Article 5.8 of the Contract when sending the invoice which reflects such change at the latest. Such notification shall be sent by the Contractor on the address for sending the invoices according to the Article 5.6 of the Contract.

6 Taxes

6.1 The Contractor declares that its tax domicile is in the Czech Republic.

6.2 The Client declares that its tax domicile is in the Czech Republic.

6.3 The contractual total price has been calculated and is expressed excluding of VAT. VAT shall be applied in accordance with the Act. No. 235/2004 Coll., on Value Added Tax, as amended and the Directive 2006/112/EC. Total contractual price for the Subject of the Contract under this Contract is final, including all taxes (except VAT). In the event the Client is required in accordance with the Act. No. 586/1992 Coll., on Income Tax, or with the applicable treaty for the avoidance of double taxation to withhold or deduct taxes upon payment of the contractual price, the Contractor will receive the amount after the deduction.

6.4 The Client is not responsible for any Contractor's obligations to tax offices of the Czech Republic.

7 Terms of performance

7.1 The Parties have agreed that the Equipment shall be delivered within the following milestones:

7.1.1 PISEK Radar system and RADOME.

- T0+6M.....CDR for PISEK Radar system.
- T0+16M.....FAT.
- T0+29M.....SAT and finishing of the PISEK Radar system.

7.1.2 BUKOP Radar system and RADOME.

- T0+24M..... CDR for BUKOP Radar system.
- T0+34M.....FAT.
- T0+42M.....SAT and finishing of the BUKOP Radar system.

T0 means a date when the Contract becomes effective.

7.2 The Parties undertake to arrange a kick off meeting for the subject of performance according to this Contract no later than T0 + 1 month.

7.3 Within the time frame T0 + 6 months for PISEK Site and T0 + 24 months for BUKOP Site the Client shall submit to the Contractor the construction preparation project for approval. This action may be preceded by mutually agreed consultations between the Contractor and the designer responsible for the construction modifications of the facilities designated for the installation of radars and RADOME.

7.4 In the event of additional requirements from the Contractor, the Client shall promptly revise the relevant documentation and resubmit it to the Contractor for approval. The construction, based on the approved project documentation, will be subject to inspection during the "Site Survey" prior to commencing the installation.

7.5 In view of the fact that the possibility of installing of the Equipment depends on the construction readiness of the Site, the Client is entitled to request a delay in delivery of the Equipment and storage of the completed radars from the Contractor, under the following conditions:

- The delay will be free of charge if the Client requests it no later than 60 days prior to the planned date of warehousing (import to the installation Site) and the delay does not exceed 18 calendar months.
- For delays requested less than 60 days prior to the planned date of warehousing, the Contractor may request a storage fee of 200 EUR per each commenced day of delay.
- In the event of an early request for a delivery delay, the Contractor may request a storage fee of 200 EUR per each commenced day after a period of 18 calendar months has elapsed.
- The delay fee shall not apply if the Contractor approved the construction project and, during the Site survey, raised additional requirements for construction preparation that necessitate a delay in the start of installation.

8 Places of performance

8.1 The places of performance of the Contract are:

- **Kopec Písek**, 262 24 Čenkov, okres Příbram, Česká republika
GPS 49-47-05,52N a 14-02-05,00E.
- **Buchtův kopec**, 592 03 Sněžné, Česká republika
GPS 49-39-34,71N a 16-08-00,22E

9 Critical Design Review (CDR)

- 9.1 A Critical Design Review session shall be performed at the Client's site, if not agreed otherwise by the Parties. The Contractor shall meet the deadlines set in the Articles 7.1.1 and 7.1.2 of this Contract.
- 9.2 The purpose of CDR is to demonstrate the feasibility of adhering to the schedule and to clarify or confirm the information required for construction preparation. In case it is determined, that the conditions necessary for adhering to the timeline are not met, the Parties undertake to initiate negotiations regarding timeline adjustments, including their impact on contractual provisions.
- 9.3 CDR is focused on:
- Radar system configuration, input and output interface;
 - List of modules to be delivered by sub-contractors, its availability and original manufacturer;
 - Documents relevant to subcontracts (orders);
 - Production progress as at the date of the meeting, up-to-date production plan;
 - Document describing the work-in-progress level achieved;
 - Demonstration of the radar components whose production is in progress;
 - PSR transmission parameters
 - PSR frequencies definition;
 - Installation organisation;
 - Installation plan (transport, packaging, weights);
 - Schedule for FAT;
 - Requirements for the Contractor's coordination efforts in connection with SAT;
 - Schedule for SAT;
 - Operation staff training dates;
 - Confirmation of civil work project;
 - RADOME Anchor Bolt Template and detailed documentation delivery (on CDR PISEK only)
- 9.4 The Contractor shall prepare a program and a list of the items to be discussed. At the conclusion of the CDR meeting, the Certificate shall be drawn up by the Contractor and agreed by both Parties.

10 Factory acceptance test (FAT)

- 10.1 Prior to the delivery of the Equipment, it shall be submitted to a factory acceptance test, which shall be carried out using PISEK and BUKOP Radar systems (hereinafter referred to as the „**Radar System**”) in the presence of the Client representatives.
- 10.2 SSR radar operation is crucial for provision of air traffic services by the Client, therefore FAT for BUKOP Radar system shall not start without successful Site Acceptance Tests of PISEK Radar system.
- 10.3 FAT documentation includes:
- FAT Plan
 - FAT Procedure Book
 - FAT Result Book

- 10.4 The Contractor shall submit the documentation for the Factory Acceptance Test (FAT) to the Client for approval no later than 30 calendar days before the commencement of the FAT. Valid comments sent by the Client no later than 5 days before the commencement of the FAT must be incorporated into the documentation.
- 10.5 In case of identifying a minor defect during the FAT, the Contractor undertakes to rectify the defect no later than to the commencement of the installation. The documentation for the Site Acceptance Test (SAT) must include a specific test focused on the deficiency identified during the FAT. A minor defect shall not hinder the relevant part of payment.
- 10.6 If a critical defect is detected, a repeated FAT must be conducted for the part where the defect was detected. The relevant part of payment will be made upon successful completion of the FAT.
- 10.7 If the Client's representatives fail to attend the FAT at the communicated time and place, the Contractor shall invite the Client to another date. If the Client's representatives do not participate in the FAT even in the second offered date, the Contractor may proceed with the FAT according to the FAT documentation. If the Client's representatives refuse to sign the FAT certificate without providing a reason for such refusal, the FAT certificate shall be prepared and signed just by the Contractor, which shall be equivalent to a FAT certificate signed by both Parties.
- 10.8 The Client shall bear his own travel expenses and costs incurred in connection with the FAT, including accommodation and travel expenses.
- 10.9 If it is necessary to subject a particular equipment component to repeated FAT or at least a portion of the FAT, the Contractor shall reimburse the Client for the per diems, travel, and accommodation expenses incurred by the Client in connection with the repeated FAT.
- 10.10 The reimbursement of the expenses mentioned in the preceding paragraph shall be carried out by the Contractor as follows: per diems shall correspond to the standard rates applicable in the Czech Republic; travel and accommodation expenses shall be reimbursed upon submission of relevant documentation. The Contractor shall reimburse the expenses based on an invoice issued by the Client.
- 10.11 FAT shall be considered a completed upon the signature of a FAT certificate.

11 Site acceptance test (SAT)

- 11.1 The Contractor hereby undertakes to provide installation of the Equipment software and configuration, so that the Equipment software is integrated with other systems of the Client, and duly test the functionality of the Equipment software via SAT.
- 11.2 SAT documentation includes:
- SAT Plan
 - SAT Procedure Book
 - SAT Result Book
- 11.3 Documentation for SAT (Site Acceptance Test) shall be submitted to the Client for approval no later than 30 calendar days before the commencement of SAT. Any authorized remarks sent to the Contractor no later than 5 days before the commencement of SAT must be incorporated by the Contractor into the documentation.

- 11.4 In the event that any defects are detected, SAT must be repeated at least for the portion where the defect was detected.
- 11.5 Within 10 days after the completion of SAT, a Site Acceptance Certificate, in the form attached to the Contract, will be issued and signed by both Parties unless the relevant part of the Equipment is rejected.
- 11.6 If the Client does not accept the relevant part of the Equipment, a report shall be prepared by the Contractor, no later than ten 10 days, listing the defects that led to the Client's rejection of the relevant part of the Equipment. The Contractor shall promptly and diligently rectify these defects and prepare the respective portion for acceptance in accordance with the aforementioned rules.
- 11.7 The Client shall not reject or delay the signing of the SAT Certificate due to minor defects, provided that the Contractor promptly rectifies these minor defects.
- 11.8 If the SAT Certificate is not signed by the Client within the transitional period of 10 days, while the report has been prepared, the relevant part of the Equipment shall be deemed accepted by the Client, and the representative of the Contractor shall sign the certificate alone. Such a SAT Certificate shall have the same effect in all respects as if it had been signed by the Client.
- 11.9 If the Client's representatives do not participate in SAT at the time communicated by the Contractor, the Contractor shall offer an alternative date to the Client. If the Client's representatives do not participate in SAT on the second offered date, the Contractor may proceed with SAT, assuming that the Client's representative was present. In such a case, the Contractor shall prepare and sign the SAT certificate, which shall be equivalent to the SAT certificate signed by both Parties.
- 11.10 SAT shall be considered to be completed upon the signature of a SAT certificate. The SAT certificate simultaneously confirms the start of the Warranty period for each site separately (PISEK Radar system and BUKOP Radar system).

12 Readiness check

- 12.1 Before commencing the delivery of technology and installation, the Contractor shall conduct a readiness check of the construction preparation and provide consent to commence the installation. The Site survey shall focus on the installation conditions, including:
- a) Access dimensions to the installation site, ensuring they correspond to the equipment dimensions;
 - b) Availability of equipment and tools for installation;
 - c) Pathways for cabling and waveguides;
 - d) Placement and spacing of openings for mounting the gearbox;
 - e) Preparation for RADOME anchoring;
 - f) Storage spaces, arrangement of individual delivery parts, condition of materials after transportation;
 - g) Infrastructure for assembly techniques;
 - h) Other conditions for the smooth progress of installation and commissioning of the radars.
- 12.2 In case the Contractor accepts the installation environment, the Contractor takes responsibility for any subsequently identified discrepancies, including potential delays, the need for equipment modifications, adjustments to documentation, and similar matters.

13 A license

- 13.1 The copyrights and all intellectual property rights to the Equipment software shall remain the property of the Contractor. The Contractor hereby grants the Client a non-exclusive, non-transferable license to use the Equipment software only for the purpose of the Contract.
- 13.2 The license is granted by the Contractor to the Client for the lifetime period of both Radar Systems, at least for 25 years from the signature of SAT certificate for each Radar System.
- 13.3 For avoidance any doubts, the Parties hereby declare, that all data, configurations, user settings or templates created by means of the software or contained therein, shall be subject to intellectual property rights of the Client and the Contractor shall be entitled to use them during performance of this Contract based on of explicit instruction given by the Client. Upon termination of this Contract the Contractor hereby undertakes, upon Client's request, to provide all the cooperation with migration of the above-mentioned data for the purpose of its further use. Such cooperation shall be included in price as stated in the Article 4.2 of this Contract.
- 13.4 The Contractor must provide the Client a separate document containing further information regarding Equipment software: exact and full-length SW title including its version or edition, part number or SW SKU (if relevant), license model (if more license models are available), length of SW support including support commencement and ending date, information about SW bundle with other producer's SW, if applicable, date of acquirement of SW license rights, information about customers account of the Client or reference to framework agreement with the producer (if relevant) and number of obtained licenses.
- 13.5 The Contractor must provide the Client a separate document containing a detailed list of all SW licenses of third parties provided by the Contractor during performance of this Contract. Each third party's SW license shall be specified by the following information: identification of a document on the basis of which the Contractor obtained the license; exact title of the obtained SW given by its producer; edition, version, type (if applicable); number of obtained licenses; license limitations (e.g. identification of language version, bit version, user / device, datacenter, CPU, CORE or as the case may be other limitations of operation – by location, country etc.) (if relevant); type of the license and license program (OEM, OLP, SELECT or other); scope of the provided support (length, commencement date, ending date) or exact relation to the Contract and date of acquirement of SW licenses.
- 13.6 If applicable, a complete list of open-source software and/or free software used to the creation of the Subject of the Contract shall be provided by the Contractor. The type of license agreement shall be listed to each open-source software and/or free software (if it concerns a standard license agreement such as GPLv2, GNU GPL, BSD License, etc.), or the full license agreement shall be provided to the Client. The Contractor is responsible that the open-source software and/or free software is used in compliance with the license terms that apply to the use of the respective open-source software and/or free software. The Client shall not be liable for any breach of the licenses related to the open-source software and/or free software used by the Contractor to perform the Subject of this Contract.
- 13.7 The Contractor warrants that the Subject of the Contract provided according to this Contract does not infringe any third-party rights (patents and other industrial and intellectual property rights).

14 Contractor's obligations

- 14.1 The Contractor undertakes that the Equipment shall meet all the requirements in line with specification required by the Client as it is stated in this Contract and in the Annexes 1 - 6 and 10 of this Contract.
- 14.2 The Contractor shall carry out the Subject of the Contract with a qualified professionalism and due diligence, acting fairly and impartially, and in a way that is deemed to be a common practice in conducting similar Subject of the Contract.
- 14.3 The Contractor shall fulfil its obligation to deliver the Equipment by completing it and handing it over to the Client within the periods specified in the Articles 7.1.1 and 7.1.2 of this Contract and at the places of performance according to the Article 8.1 of this Contract.
- 14.4 The Contractor shall comply with the rules of the entry of external entities to the premises and objects of the Client. The obligations of the Contractor regarding the entry of external entities to the premises and objects of the Client are specified on the following website:
- <https://www.ans.cz/categorysb?CatCode=A8>
- 14.5 The Contractor shall meet the requirements of Regulation (EU) 2018/1139 of The European Parliament and of the Council, applicable to organizations involved in the design, manufacture or maintenance of ATM/ANS systems and its ATM/ANS constituents and of its implementing acts.
- 14.6 The obligation stated in the Article 14.5 of this Contract shall be observed by the Contractor throughout the entire duration of the Contract, whereas the Client is entitled to verify the fulfilment of this obligation.
- 14.7 The Contractor is obliged to maintain for the duration of the Contract a valid quality management system certificate issued by an accredited entity in accordance with either the current EN ISO 9001 standard or any other equivalent standard or must adhere to equivalent quality assurance measures.
- 14.8 The Contractor must possess an organization exposition according to Annex 2 of Commission implementing regulation (EU) 2023/1769 of 12 September 2023, laying down technical requirements and administrative procedures for the approval of organizations involved in the design or production of air traffic management/air navigation services systems and constituents and amending Implementing Regulation (EU) 2023/203. The Contractor is also obliged to maintain this organization exposition in accordance with the provisions of the above-mentioned Annex for the duration of the Contract.
- 14.9 The Contractor must follow the current ISO/IEC 12207 standard or adhere to equivalent measures ensuring the application of standard software lifecycle processes.
- 14.10 The Contractor shall inform the Client well in advance if the TAT cannot be reached, nevertheless such information shall not affect the Client's right to charge the Contractor a conventional fine according to the Article 24.4 of this Contract.
- 14.11 All information provided during the execution of this Contract shall be confidential according to the provisions of Section 504 and 1730 sub. 2 of the Act No. 89/2012 Coll, Civil Code as amended, and the Contractor may not disclose it to any other party; otherwise it shall be responsible for the damage. The Contractor shall keep protected from any unauthorized use any information that has

received on the activities of the Client, or the materials in the propriety of the Client, unless a prior approval made in written form has been obtained from the Client.

15 Client's obligations

15.1 The Client undertakes hereby to prepare following before commencing the installation of the Equipment:

- a) A lockable room for the employees of the Contractor designated for storing personal belongings and rest;
- b) Facilities for personal hygiene of the Contractor's employees (may be shared with the Client's employees);
- c) Area for storage, preparation, and consumption of meals;
- d) Access to a telephone line with international authorization for unlimited use;
- e) Access to the internet without time restrictions;
- f) Valid IC code for PISEK and BUKOP Site;
- g) Lock-out map assigned by MICA EUROCONTROL for PISEK and BUKOP Site;
- h) ICAO 24-bit address for the parrot (test transponder) assigned by NSA for PISEK and BUKOP Site;
- i) SAC/SIC codes according to EUROCONTROL rules for PISEK and BUKOP Site;
- j) Authorization for operating primary radar frequencies approved by the Ministry of Transport and the Czech Telecommunication Office (ČTU).

15.2 The Client must familiarize the Contractor's employees with the conditions and restrictions for their presence and activities within the designated installation facility. The instructions, prepared in written form, will be provided in Czech and English. Each employee of the Contractor shall confirm their understanding of the instructions and commit to complying with them by signing. The instructions shall include:

- a) Safety rules for work and stay in the facility of the Client, including immediate surroundings (access roads);
- b) Fire protection regulations;
- c) Conditions for the use of personal vehicles of the Contractor within non-public areas for accessing the installation site;
- d) Availability of medical care in the event of an accident or sudden health condition;
- e) Important telephone numbers.

15.3 The Client undertakes hereby to provide all the necessary coordination to the Contractor to the extent needed for the performance under this Contract, namely:

- a) Provision of information, documentation and other materials related to the relevant issues in question under this Contract
- b) Arrangement for the time schedule and coordination.

16 Audit

16.1 The Client is entitled to conduct audits of the Contractor to examine the Contractor's activities and processes, including documentation and records, for the purpose of verifying compliance with the requirements of this Contract.

- 16.2 The Contractor shall provide the auditor appointed by the Client with the necessary cooperation, documentation, and records, as well as access to the premises necessary for the performance of the subject matter of the Contract, which are essential to demonstrate compliance with the requirements of this Contract. The Contractor shall also ensure that such cooperation is provided by his subcontractors.
- 16.3 The Client shall give the Contractor reasonable notice, but not less than 30 days, of its intention to conduct an audit. The Client shall use reasonable efforts to ensure that the conduct of the audit does not result in damage or undue disruption to the relevant premises, equipment, personnel, and activities of the Contractor.
- 16.4 The Client shall inform the Contractor of the intention to conduct an audit with reasonable advance notice, but in any case, at least 30 days in advance. The Client shall make reasonable efforts to ensure that the conduct of the audit does not result in damage, excessive disruption to the affected premises, equipment, personnel, and activities of the Contractor.
- 16.5 The Contractor shall not be obliged to grant access to its premises during the audit unless:
- a) The person conducting the audit presents identification and authorization for conducting the audit;
 - b) The audit is conducted outside of regular working hours, except when the audit, for its intended purpose, necessitates such conduct outside regular working hours, and the Client has informed the Contractor in advance (during regular working hours) of such a case.
- 16.6 Within 30 days of the completion of the audit, the Client shall prepare and provide the Contractor a final report containing the audit results and identified audit findings or nonconformities.
- 16.7 The Contractor has the right to provide comments on the results of the audit. His comments are then considered when approving the content and deadlines for corrective actions.
- 16.8 The Contractor shall, within 30 days of receiving the final report, inform the Client of the corrective actions established to rectify the causes of the identified audit findings or nonconformities, including a binding deadline for their implementation.
- 16.9 The Contractor shall inform the Client of the implementation of the established corrective actions within defined deadlines.
- 16.10 The Contractor acknowledges that the Client conducts periodic supplier evaluations in accordance with the requirements of the ČSN ISO/IEC 9001 standard, which, among other things, consider known risks and the implementation of security measures by the Contractor.

17 Training Course

- 17.1 The Client declares that the Training course will be attended by technicians who are specialists in surveillance systems and are ATSEP-qualified according to Commission Implementing Regulation (EU) 2017/373. They have successfully completed the following training cycles:
- Basic Training,
 - Qualification Training,

- System/Equipment Rating Training for similar system as provided within this Contract and regularly maintain their competencies through continuing education and evaluation.

17.2 All participants in the Training course have previous experience in operating PSR (solid-state S band) and MSSR (in S mode).

17.3 Travel cost and daily allowance of training participants will be covered by the Client.

17.4 The Training course, conducted in Czech or English, will follow the Contractor's syllabus and will include:

a) One Training at the Contractor's premises before FAT PISEK Radar System.

- Theory in a classroom setting according to the standard training plan provided by the Contractor. The Training course will be conducted in two cycles with identical curriculum for a total of 14 technicians.
- The duration will be determined by the Contractor. The expected duration of the Training course cycle is ten 10 working days, unless the Contractor recommends a different duration based on the standard training plan.
- The Contractor will prepare training documentation for each participant.
- The Contractor has the right to conduct an assessment of the knowledge of all participants, at least through an interview.

b) On-the-Job Trainings (OJT)

- Two practical trainings after the completion of PSR/MSSR installation and commissioning – one prior to SAT at the PISEK site and one prior to SAT at the BUKOP site.
- The trainings will be conducted in three cycles for each site for groups of up to six (6) technicians.
- The duration will be at least two (2) working days for each group and site
- The practical training may utilize devices, accessories, spare modules, and documentation that are part of the contract deliverables.
- A simplified training outline will be provided for the practical training, without requiring separate documentation.

c) Practical RADOME Maintenance and Inspection Trainings

- Two practical trainings for RADOME maintenance and inspection - one at the PISEK site and one at the BUKOP site for six (6) technicians with prior experience in RADOME maintenance.

d) Follow-up consultations

- One year after the start of operations, the Contractor will organize consultations based on inquiries from the Client's employees, lasting up to 3 days. The Client will submit the inquiries to the Contractor at least 2 weeks prior to the scheduled consultation date.
- Specific documentation is not required for the consultations.
- The above-mentioned consultations will be organized by the Contractor for the PISEK Radar system and for the BUKOP Radar system separately.

18 Delivery Conditions and Transport

- 18.1 The Contractor is responsible for the transportation of the Equipment from the manufacturing plant to the PISEK and BUKOP Sites, including insurance and any customs clearance and duties.
- 18.2 The Client undertakes to provide the Contractor necessary mechanization equipment for unloading.
- 18.3 All packaging is non-returnable, even in the case of partial delivery in containers. The Client is responsible for the eco-friendly disposal of the packaging.
- 18.4 The location and delivery date of the RADOME template will be determined by the Client on the kick-off progress meeting. The template is non-returnable.
- 18.5 The delivery terms shall be "DDP, according to INCOTERMS® 2020" (delivery and insurance to the destination, including handling).
- 18.6 The components for repair or replacement shall be sent DDP by the Client to the Contractor based on INCOTERMS 2020 (the costs of packing and shipping shall be borne by the Client).
- 18.7 Repaired or replaced components shall be sent DDP by the Contractor to the Client based on INCOTERMS 2020 (the costs of packing and shipping shall be borne by the Contractor).
- 18.8 Each component to be repaired shall be shipped to the Contractor with Item Failure Repair/Report sheet enclosed or sent by email and duly completed by the Client.
- 18.9 Each repaired or replaced component shall be shipped to the Client with Item Failure Repair/Report sheet enclosed or sent by email and duly completed by the Contractor.

19 Installation

- 19.1 The Contractor undertakes to carry out the turnkey installation of the Equipment using its own resources and employees, without active cooperation from the Client. The Client will assist where local factors, such as electrical network connections, opening of packages with assembly materials, disposal of packaging materials, and similar activities, may influence the progress and success of the installation.
- 19.2 The Client's employees will not perform work at heights, work under a load suspended from a crane, or perform other dangerous tasks that are beyond their qualifications.

20 Warranty

- 20.1 The Contractor is liable that the Equipment has the parameters stipulated in this Contract and its Annexes 1 - 6 and 10 of this Contract.
- 20.2 The Contractor shall warrant the Equipment against all defects and failures during the Warranty Period stated in the Article 20.4 of this Contract (hereinafter referred to at the "**Warranty period**").
- 20.3 All service support provided in the Warranty period will be provided by the Contractor free of charge, including shipping and customs clearance for goods shipped outside the EU, as well as payment for transportation and accommodation of service personnel.
- 20.4 The Equipment delivered by the Contractor under this Contract shall be warranted for following periods:
- PISEK Radar system and RADOME (PSR/MSSR/RADOME): 24 months starting from the signature of the SAT Certificate according to the Article 11.10 of this Contract.
- BUKOP Radar system and RADOME (PSR/MSSR/RADOME): 24 months starting from the signature of the SAT Certificate according to the Article 11.10 of this Contract.
- 20.5 The Contractor shall repair the defect of the Equipment reported by the Client in following periods:
- a) At the latest within 4 working days in case of fatal malfunction, if:
 - PSR and/or MSSR is completely inoperative;
 - RADOME obstructs operation of PSR and/or MSSR;
 - b) At the latest within 10 working days in case of defect, if:
 - There is a big risk that specified output of the Equipment could be influenced by this defect;
 - Redundancy extent is radically reduced;
 - PSR/MSSR does not work according to the stipulated specification in its entirety, but output data are operationally available;
 - One of functions of the Equipment is not available, but it does not influence the use of output data;
 - c) Returning of replacement part from repair - TAT) at latest within 40 days including delivery to the Client;
 - d) At the latest within 30 days in case of RADOME defect, if the PSR and/or MSSR use is not limited.
- 20.6 The Warranty period of the defective part of the Equipment shall be extended for the period which was necessary to eliminate the defect which impede the operation of PISEK Radar system or BUKOP Radar system.
- 20.7 For such defects, which have been identified prior to the expiration of the Warranty Period, but not remedied within the Warranty Period, the Warranty period shall extend until the remedial actions have been completed and the effect of the action has been adequately verified.
- 20.8 At the end of the Warranty period of each PSR/MSSR and RADOME, the Contractor shall make a comprehensive check at the place, the way and in extent of annual review according to the original technical documentation provided by the Contractor.
- 20.9 When any defect is found during the comprehensive check at the end of the Warranty period, this defect shall be fixed by the Contractor under the Warranty period conditions.

- 20.10 The entire costs for the correction of deficiencies falling under the Contractor's Warranty shall be carried out by the Contractor. In case of breach of the warranty duties of the Contractor, the Client has the right to eliminate the defect through a third person. The costs related to such elimination shall be paid by the Contractor.
- 20.11 During the Warranty Period, the Contractor shall remedy any defects which are identified in any part of the Equipment at his own expenses.
- 20.12 The Contractor's Warranty shall not apply to PSR, MSSR and RADOME in cases where the usage and maintenance are not in accordance with the instructions provided in the operation and maintenance documentation, and provided that they are not used under normal operating conditions specified in the technical documentation (environmental conditions of the installation site, power supply, data connection, etc.).
- 20.13 The Warranty shall not apply to those parts of the Equipment that have been modified without the prior written consent of the Contractor.
- 20.14 During the Warranty period, the Contractor is authorized to withdraw from stock the spare parts already supplied, which are needed to fulfill its obligations arising from the Warranty conditions, on the condition that the withdrawn parts are replaced with new parts at the Contractor's own expense as soon as possible. Such manipulation is permissible as long as the operational usability of PSR or MSSR is not affected.
- 20.15 During the Warranty period, the Contractor will ensure application of security patches if they are relevant to the delivered Equipment. The Contractor will ensure the immediate removal of known vulnerabilities in the Critical level, in the High level without unnecessary delay according to the evaluation, according an open framework for communicating the characteristics and severity of software vulnerabilities - Common Vulnerability Scoring System (CVSS) - <https://www.first.org/cvss/>
- 20.16 Unless stated otherwise in this Contract the liability for defects follows the Section 2615 et seq. of the Civil Code.

21 Post – Warranty service support

- 21.1 The Contractor undertakes to provide the Client Post - Warranty service support for the Equipment when the Warranty period for each Radar system stated in the Article 20.4 of this Contract expires - for the remaining period of an effectiveness of this Contract according to the Article 27.1 of this Contract (15 years after the signature of SAT certificate of the BUKOP Radar system).
- 21.2 During the period stated in the Article 21.1 of this Contract the Contractor undertakes to provide the Client repairs for the Equipment within the price limit stated in the Annex 8 of this Contract (Repair price list) and within defined delivery periods.
- 21.3 The Contractor shall provide technical support for the hardware and software delivered under this Contract for a period stated in the Article 21.1 of this Contract (in accordance with prices stated in the Annex 7 of this Contract).
- 21.4 Post-Warranty service support shall include:

a) Post – Warranty service readiness:

Help Desk service

- The Contractor shall have a SW or HW Specialist available for telephone support during the normal Working Hours. These are made available to the Client.
- In the event that a problem cannot be solved by immediate telephone support, technical experts shall be assigned to attempt to solve the problem.
- Remote connection functionality is made available at the Contractor as part of this Post –Warranty Service Support. The Client is responsible to ensure secure connections on the Radar system on site via internet access. Remote connection enables software diagnostics on relevant parts of the Radar system.

Upgrade information, documentation update

- The Contractor shall notify the Client of relevant and significant software and hardware upgrades designed by the Contractor relevant to the Radar system covered by this Contract.
- Upon request from the Client, this information shall be followed up with concrete proposals for recommended upgrades.
- The Contractor shall update the system documentation where necessary during warranty and post-warranty period.

Reports

- The Contractor will issue, in electronic form, a monthly Service Intervention Report listing all service interventions during the past month.
- Any HW returned after repair will generate a Service Intervention Report.
- Any SW investigations will generate an Investigation Report.

Obsolescence management

- If the production of certain spare parts is discontinued before the period stated in the Article 21.1 of this Contract have elapsed, the Contractor shall notify the Client of this fact with sufficient advance notice (at least 12 months) and propose suitable alternative solutions.
- If, during the period stated in the Article 21.1 of this Contract, it becomes impossible to supply identical spare parts, the Contractor shall provide an alternative part or propose an alternative solution that qualitatively corresponds to the original part, at an acceptable and appropriate price. In this case, information regarding the necessary modifications for implementing the respective change shall also be provided.
- If the Contractor is informed that production of Equipment or components will expire, the Client shall be advised by the Contractor in advance, in order to consider and order a sufficient stock of spares, or initiate a modification of such an equipment or components.

Security management

- The Contractor shall continuously monitors published and known security vulnerabilities which can influence smooth and safe operation of the supported Radar systems. It means for example vulnerabilities in the operation systems, third party SW, web components etc.
- In case such vulnerability is discovered the Contractor is obliged to inform the Client immediately and analyze possible impact on system operation.
- When the possibility of negative influence on the Radar system operation is confirmed, the Contractor is obliged to propose corrective measures.

b) Service interventions

Correction of SW bugs, SW improvements

- Remote corrections of software bugs;
- Installation of new software versions;

On site HW/SW assistance

- As part of this Service Support the Client may request the Contractor to send a maintenance engineer for assistance on site on specific response times.
- If such technical support is required it will be charged according to defined on site rates. The on-site hour rate covers all necessary costs associated with on-site assistance (work, travel, housing...). Such callout shall be mutually agreed and approved by the Parties before intervention.

Continuation Training on the system if required

Other necessary services define by man hour/man day

- Other services may include all activities that are not defined in the description of service interventions, but may be related to it.
- If such service is required, it will be charged according to the defined service rates. This service will be mutually agreed upon and approved by the parties prior to performance.

Priority of Service interventions

Priority	Type of defect
1 (Critical Failure)	- The radar (PSR and/or MSSR) has completely failed and is unusable for operation. - No data is available or the data on the radar output is operationally unusable.

	- The operation of the radars is completely excluded due to RADOME malfunction.
2 (Major Failure)	- The radar (PSR and/or MSSR) does not operate according to technical specification, and the output data is affected as a result. - There is a significant risk of performance impact, and the level of redundancy is significantly reduced. - The operation of the radars is partially restricted due to RADOME malfunction.
3 (Minor Failure)	- The radar does not operate according to technical specifications, but the output data is operationally usable. Some functions that do not affect the usability of the data are not available.

Service Terms - Service interventions

Service type	Mode of Response/Conditions	Maximum Response times - Working Days (counted from the moment the defect is reported by the Client to the Contractor)
Help desk	Provision of advice	within 1 day
	Confirmation of service request receipt	within 1 day
On-site hardware, software repair initiation	Priority 1	within 5 days
	Priority 2	within 30 days
	Priority 3	By agreement (*)
Remote software repair initiation	Priority 1	within 1 day
	Priority 2	within 5 days
	Priority 3	By agreement (*)
RADOME repair initiation	Priority 1	within 5 days
	Priority 2	within 30 days
	Priority 3	By agreement (*)

Resolution/removal of reported issue:

Priority 1 within 30 days	Priority 2 within 60 days	Priority 3 By agreement (*)
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(*) - If not agreed upon, the deadline is set at a maximum of 90 days.

c) Individual Repairs

- Acceptance for workshop repairs of hardware, including subcontractors of the original manufacturer or materials used during installation.
- Reception of defective Items from the Client including subcontractor's HW;
- Analysis and detection of the defective HW Items;
- Repair of and/or replacement of defective HW Items;

- Delivery of repaired and/or replaced HW Items to the Client
- Service intervention documentation

Sending faulty Covered Items to the Contractor:

Before sending a faulty Covered Item, the Client shall inform the Contractor by email the Contractor's Repair factory site and the contact person stated in the Article 22 of this Contract. Each Covered Item to be repaired or replaced shall be shipped to the Contractor with Item Failure Repair/Report sheet. The Contractor shall acknowledge receipt of the shipment to the Client's contact person stated in the Article 22 of this Contract.

Sending repaired or replaced Covered Items to the Client:

Each repaired/replaced Covered Item shall be shipped to the Client with Item Failure Repair/Report sheet completed by the Contractor. The Client shall acknowledge receipt of the shipment to the Contractor's contact person stated in the Article 22 of this Contract. Return after repair (Turn Around Time - TAT) for workshop repairs of hardware is within 40 days

22 Contacts

22.1 Authorized Representatives for the coordination of the performance of this Contract, who shall be responsible for the coordination of the activities performed on their part and shall act as liaison persons for the other Party, are:

On the part of the Client:

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22.2 The contact persons as stated above may provide the other Party with the list of further contact persons or its amendment. A list of designated contacts shall be sent by electronic (digital) means, such as an e-mail message, where attachments shall be converted to pdf format and signed by a recognized electronic signature according to Act No. 297/2016 Coll., on services creating confidence in electronic transactions, as amended, or the data box or by paper-based mail via a postal licence holder.

23 Ownership right and risk of damage

23.1 The ownership right to the tangible parts of the Equipment delivered according to the Contract shall pass from the Contractor to the Client as soon as the Equipment is handed over on the basis of the signing of the SAT certificate according to the Article 11.10 of this Contract by both Parties. The risk of damage shall pass to the Client together with the ownership right.

24 Contractual penalties

24.1 In case of a breach of contractual obligations the Parties shall arrange following contractual penalties:

24.2 In case that Client creates all conditions in line with this Contract for the Contractor nevertheless the Contractor does not deliver the Equipment in terms stated in the Article 7 of the Contract, the Client may claim from the Contractor a contractual penalty in the amount of 0,05 % of the contractual price of the relevant part of the Equipment, which is not delivered (fulfilled) in time, per each day of the delay.

24.3 In case that Client creates all conditions in line with this Contract for the Contractor nevertheless the Contractor breaches any of Contractor's obligations stated in this Contract, but not sanctioned explicitly in the Article 24 of this Contract, the Client may claim from the Contractor a contractual penalty in the amount of 500 EUR for each individual breach.

24.4 In case the Contractor does not meet the response times for service interventions defined in the Article 21.4 of this Contract, the Client is entitled to charge the Contractor a penalty in the amount of 100 EUR for each day of delay.

24.5 In case of a breach of the rules of entry of external entities according to the Article 14.4 of this Contract, the Contractor shall pay to the Client a contractual penalty in the amount of 500 EUR for each individual breach.

24.6 If the Contractor breaches reporting obligation in the field of security incidents/incidents set out in the Security Rules notified pursuant to Article 6 of the Annex 9 of this Contract, the Client is entitled to demand a contractual penalty in the amount of 2000 EUR for each individual case of breach.

24.7 If the Contractor breaches the conditions of security of the workstation set forth in the Security Rules notified pursuant to Article 6 of the Annex 9 of the Contract, the Client is entitled to demand a contractual penalty of 2000 EUR for each individual breach.

24.8 If the Contractor breaches other obligations specified in the Annex 9 or security rules distributed according to Article 6 of the Annex 9, the Contractor shall be duty-bound to pay a penalty in the amount of 1000 EUR for each individual case of breach.

24.9 In case the Contractor breaches any of its obligations stated in the Article 16 of this Contract, the Client may claim from the Contractor a contractual penalty in the amount of 500 EUR for each individual case of breach.

24.10 If the Client is unable to use or develop the Equipment in accordance with Regulation (EU) 2023/1768, the Client shall be entitled to demand from the Contractor a contractual penalty in the amount equal to the book value of the performance under this Contract.

24.11 Contractual penalties are payable within thirty (30) days after a demand for payment made out by authorized party is delivered to obliged Party.

24.12 Contractual penalties shall be paid regardless to any damage occurring to the other Party. Damages can be claimed independently. The right to claim damages remains unaffected.

25 Force Majeure

25.1 The Parties agreed that they are not liable for failing to meet all or some of the provisions hereunder, if such failure was caused by an event of force majeure. However, the Party affected by an event of force majeure shall perform its obligations hereunder as soon as the effects of an event of force majeure cease. All the terms hereunder shall be postponed for a period equal to the time when an event of force majeure lasted. The Party affected by an event of force majeure shall notify the other Party as soon as possible after any occurrence thereof.

25.2 Should force majeure consequences last probably for more than 12 months, any of the Parties hereto is entitled to withdraw from this Contract and any Parties' claims shall be settled in a way not to cause undue benefit to any Party hereto.

26 Other Provisions

26.1 By signing this Contract the Contractor acknowledges that it is not authorized to disclose or disseminate any information which could affect the security of civil aviation, namely due to requirements for maintaining security in civil aviation resulting from the relevant legislation (in particular the ICAO Annex No. 17) and imposing on air navigation service providers to take appropriate actions as a base to provide safeguarding of civil aviation against acts of unlawful interference. Particularly, the Contractor shall not anyhow reproduce and redistribute any information acquired in connection with the performance thereof.

26.2 The Contractor acknowledges that the Subject of the Contract is subject to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91, in conjunction with Commission Delegated Regulation (EU) 2023/1768 of 14 July 2023 laying down detailed rules for the certification and declaration of air traffic management/air navigation services systems and air traffic management/air navigation services constituents, as well as Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011.

The Subject of the Contract is categorized as "Surveillance" in terms of the systems and constituents of the European Air Traffic Management Network (EATMN) in accordance with the provisions of Annex VIII, Article 3.1 (f) of Regulation 2018/1139.

In view of the above, the Contractor shall, in order to demonstrate compliance (issuance of the SoC) during the transitional period specified in Regulation (EU) 2023/1768, submit to the Client, well in advance of the SAT, a compliance matrix justifying compliance with the requirements of

the detailed specifications that apply to the subject matter of performance in accordance with the relevant applicable legislation and EASA Decision.

The Contractor further undertakes to take all steps to obtain from the European Aviation Safety Agency (EASA) a design or production organization approval for ATM/ANS equipment (hereinafter referred to as the "**DPO approval**") so as to ensure the operation and development of the Subject of the Contract in accordance with the applicable legislation applicable to the Subject of the Contract after the expiry of the transitional period under Regulation (EU) 2023/1768.

The Contractor shall promptly inform the Client in writing through the contact persons specified in the Article 22 of this Contract of the application for DPO approval.

26.3 The Contractor acknowledges that the Client is bound to publish this Contract pursuant to Act No. 340/2015 Coll., on special conditions of effect of some contracts, publishing of those contracts and the register of contracts (the Contracts Register Act), as amended. The Contractor further acknowledges that the Client is bound to provide information according to Act No. 106/1999 Coll., on free access to information, as amended.

26.4 Trade secret, within the sense of § 504 of the Civil Code, means the price breakdown stated in the Annex 7 of this Contract and repair price list in the Annex 8 of this Contract.

26.5 The Contractor and Client shall comply with personal data protection rules pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), i.e. GDPR Regulation, and pursuant to other generally binding legal regulations on personal data protection. More information on data protection on the part of the Client is available on:

<https://www.ans.cz/categorysb?CatCode=A6>

26.6 Given that the Contractor was evaluated as a major contractor within the meaning of Section 2 (n) Regulation No. 82/2018 Coll., on security measures, cybersecurity incidents, reactive measures, requirements for filing in the area of cybersecurity, and data removal, as amended (hereinafter referred to as the "Cyber Security Regulation"), the Parties agree that an integral part of this Contract is the Annex 9 that comprises the requirements of Annex 7 of Cyber Security Regulation (that means information concerning security measures for contractual relationship with major contractors. The Contractor shall fulfil the obligations set out in this Annex 9 of this Contract. Contact details of Cyber Security Manager shall be notified to the other Party by the contact persons as stated in Article 22 of this Contract. These contact details/persons may be changed by the Parties from time to time nevertheless each change shall be announced to the other Party without any delay, and such communication shall be made between the contact persons stated in Article 22 of this Contract in electronic (digital) form, meaning email with attachments converted in pdf format and signed with recognized electronic signature (in accordance with eIDAS), databox or in the form of letter sent via the holder of postal license with confirmation of delivery.

27 The Contract Duration

27.1 This Contract is concluded for the period starting on the date the Contract enters into force (the day when it is published in the Register of Contracts according to Act. No. 340/2015 Coll., on the Register of Contracts) and terminates 15 years after the signature of SAT certificate of the BUKOP Radar system.

28 The Contract Termination

- 28.1 Both Parties declare that in the event of non - performance of mutual obligations they will use all available means to achieve factual remedy.
- 28.2 In the event that remedy cannot be reached in an amicable way, either Party is entitled to terminate the Contract if the other Party materially breaches its obligations under the Contract. The termination must be made in writing including the reasons.
- 28.3 The Client may terminate the Contract in case of material breach of this Contract by the Contractor. The following actions shall be deemed to be a material breach of the Contract providing good reason for termination:
- a) delay with the delivery of the Equipment (even of the each part of the Equipment due to the Article 7.1 of this Contract) lasting more than 30 days.
 - b) the Contractor breaches its obligations under this Contract repeatedly despite a warning (notice) given by the Client in written form.
 - c) the Contractor breaches the provision of the Annex 9 of this Contract or Security Rules notified pursuant to Article 6 of the Annex 9 of the Contract.
 - d) the Contractor breaches the obligation stated in the Articles 14.5 - 14.9 of this Contract.
 - e) the Contractor does not implement corrective actions resulting from an audit performed in accordance with the Articles 16.8 and 16.9 of this Contract within a deadline stated in an audit report.
 - f) in the event of a significant change in control of the Contractor or a change in control of the principal assets used by the Contractor for performance under the Contract whereas a significant change in control means a change in the controlling entity pursuant to Section 74 et seq. of Act No. 90/2012 Coll., on Business Companies and Cooperatives (Business Corporations Act), as amended.
 - g) the Client cannot use or develop the Subject of the Contract in accordance with Regulation (EU) 2023/1768.
- 28.4 The Contractor is entitled to terminate this Contract in the event that the Client is in default with the payment of an invoice for more than 30 days.
- 28.5 Either Party shall be entitled to terminate this Contract if the other Party is bankrupt in accordance with its national law.
- 28.6 In the event of termination of this Contract by either Party, the force and effect of the Contract shall expire upon delivery of a written notice to the other Party.
- 28.7 This Contract may be terminated by mutual agreement of both Parties.
- 28.8 In case of the Contract termination, any claims of both Parties shall be settled so as to avoid any undue enrichment for either Party.

29 Assignment

- 29.1 Neither Party to this Contract shall be entitled to assign or transfer any of its contractual rights or obligations to any third party without prior written approval from the other Party; such approval shall not be denied unreasonably.

29.2 The Contractor shall be entitled to subcontract, under its responsibility, any part of this Contract.

30 Final Provisions

30.1 The Parties agree that their contractual relationship shall be governed by Czech Law, namely by the provisions of the Act No. 89/2012 Coll. Civil Code as amended. Any dispute, controversy and/or claim arising out of or in connection with this Contract, which cannot be settled by the Parties in a friendly manner, shall be finally settled by the appropriate Court of the Client.

30.2 Any amendment and alteration of the Contract can only be made in writing, based on agreement of both Parties, and have to be signed by authorized representatives of both Parties hereto.

30.3 **This Contract is signed electronically in English language in one electronic counterpart.**

30.4 The Parties agree with the content of this Contract, and in witness of their free and serious will they have caused this Contract to be executed by their duly authorized representatives.

30.5 This Contract shall be valid upon signature by the both Parties and shall enter into force on the day when it is registered in the Register of Contracts according to Act. No. 340/2015 Coll., on the Register of Contracts, as amended.

30.6 The integral parts of this Contract are following Annexes:

Annex 1- INT (Introduction)

Annex 2 - SYS (PSR and SSR System Specification)

Annex 3 - PSR (Primary Surveillance Radar Specification)

Annex 4 - SSR (Secondary Surveillance Radar Specification)

Annex 5 - RAD (RADOME Specification)

Annex 6 - GEN Generally)

Annex 7 - Price Breakdown

Annex 8 - Repair price list

Annex 9 - Cyber security

Annex 10 - Compliance Matrix



.....
the Client
Jan Klas
Director General
Air Navigation Services of the Czech Republic (ANS CR)



.....
the Contractor
Aleš Jedlička
Managing Director
ELDIS Pardubice, s.r.o.



.....
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Tomáš Müller
Managing Director
ELDIS Pardubice, s.r.o.

**Annex no. 1
to the Contract No. 183/2024/IS/010**

Introduction

Version 1.0

Obsah

1	IN GENERAL	4
1.1	NEW RADARS FOR ANS CR	4
1.2	HISTORICAL RECORD OF USED PSR, SSR AND RADOME	5
1.3	TECHNICAL OPERATING STAFF AND MAINTENANCE	6
1.4	IATCC – INTEGRATED ATC CENTRE	6
1.5	CURRENT SURVEILLANCE INFRASTRUCTURE	6
1.6	SURVEILLANCE STRATEGY OF ANS CR FOR THE PERIOD 2025 TO 2045	7
1.7	RADAR PERFORMANCE VERIFICATION	7
1.7.1	Performance Verification Tools	8
1.7.2	Aircraft to Verify Radar Performance	8
1.7.3	Surveillance Data Recording	8
1.8	SURVEILLANCE DATA CHAIN	8
1.9	COMMUNICATION INFRASTRUCTURE	8
1.10	CMOS	9
2	INSTALLATION ENVIRONMENT	9
2.1	PÍSEK (PISEK)	9
2.2	BUCHTŮV KOPEC (BUKOP)	9
3	THE INSTALLATION SITES	10
3.1	STEEL TOWER FOR ANTENNA WITH RADOME	10
3.2	RADAR EQUIPMENT ROOM	10
3.3	POWER SUPPLY	11
4	CLIMATIC CONDITIONS AT INSTALLATION LOCATION	12

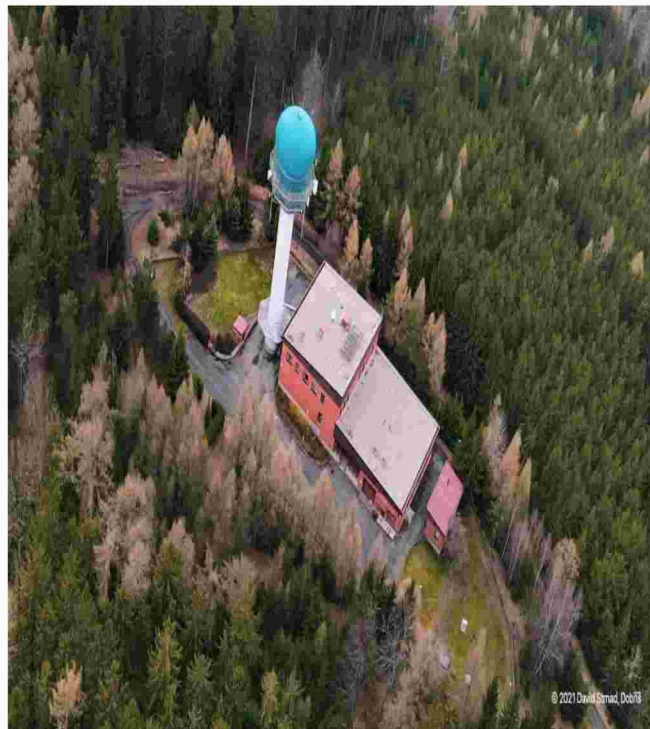
4.1	TEMPERATURE AND AIR PRESSURE STATISTICS	12
4.1.1	PISEK.....	12
4.1.2	BUKOP.....	12
5	OTHER PRIMARY RADARS BEAR PISEK AND BUKOP SITES.....	13
5.1	PISEK RADAR SURROUDINGS.....	13
5.2	BUKOP RADAR SURROUDINGS	13
6	INSTALLATION LOGISTICS.....	14
6.1	ACCESS ROAD	14
6.2	TRANSPORT OF THE EQUIPMENT	14
6.3	MATERIAL STORAGE	14
6.4	WATCH SERVICE	14
6.5	SUPPORTING MACHIES FOR INSTALLATION	15
6.6	CONNECTION TO POWER MAINS	15
6.7	INITIAL REVIEW OF ELECTRICAL INSTALLATION	15
6.8	CONNECTION TO DATA INFRASTRUCTURE.....	15
7	TECHNICAL SPECIFICATION	16
7.1	TECHNICAL SPECIFICATION CONTENT	16
7.2	TERMS USED IN THE TECHNICAL SPECIFICATION	17
7.3	SPECIFICATION LANGUAGE	17
7.4	COMPLIANCE MATRIX FILL INSTRUCTION	19
8	ACRONYMS.....	21
9	REFERENCE MATERIAL.....	24

1 IN GENERAL

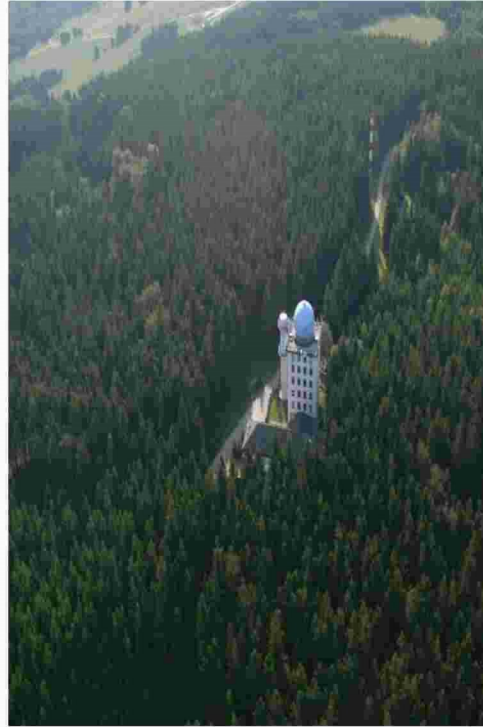
1.1 NEW RADARS FOR ANS CR

Air navigation services of the Czech Republic (ANS CR) intends to install two new radar systems (PSR/SSR) including the antenna cover (RADOME). New radar systems shall replace the old SSR (both standalone without PSR) at the following locations:

- Kopec Písek (further referred to as PÍSEK)
 - Radar – geographical coordinates 49-47-05.52N and 14-02-04.36E, altitude of current SSR antenna 720 m above MSL (building basement 684m, height of radar tower is 28m)
 - Test transponder – geographical coordinates 49-47-03.97N and 14-01-50.12E, altitude of antenna 675m,
 - ICAO 24-bit address 49F08E, the delay corresponds to the distance of 154NM



- Buchtův kopec (further referred to as BUKOP)
 - Radar - geographical coordinates 49-39-34.71N and 16-08-00.22E, altitude of current SSR antenna 836m above MSL (building basement 813m, height of radar tower is 22m)
 - Test transponder – geographical coordinates 49-43-35.32N and 16-06-22.25E, altitude of antenna 663m
 - ICAO 24-bit address 49F0E4, the delay corresponds to the distance of 172NM



1.2 HISTORICAL RECORD OF USED PSR, SSR AND RADOME

The history of surveillance equipment of ANS CR during past fifty years comprised:

- Primary radar supplied by:
 - TESLA (Czech Republic) – En-route (1957)
 - TESLA (Czech Republic) – terminal approach (1960)
 - THOMSON (France) – En route (1979)
 - RADWAR (Poland) – En-route (1985)
 - THALES (France) – terminal approach (1995)
- Secondary radars supplied by:
 - AIL Cuttler Hammer (USA) - conventional SSR (1975)

- VNIIRA Leningrad (former Soviet Union) – conventional SSR (1985)
- THALES (France) – MSSR mode S (1993)
- RADOME supplied by:
 - ESSCO Collins Limited - RADOMES on the PISEK and BUKOP sites (1996)

1.3 TECHNICAL OPERATING STAFF AND MAINTENANCE

The experience of ANS CR staff is based on the operation of a number of radar types. The technicians who will operate the new radars and will also be present during the installation are specialists in the field of surveillance systems. All of them are ATSEP competent according to Regulation (EU) 2017/373, i.e. have successfully passed the following training cycles:

- Basic Training,
- Qualification Training,
- System/Equipment Rating Training

and regularly maintain their competence in continuing training. All training participants have previous experience in PSR (solid state S band) and SSR (mode S) operation. Everyone speaks Czech and English.

Technical maintenance and operation of radars is organized centrally at ANS CR. The group of technicians responsible for the operation of the radar systems is based in the Integrated Air Traffic Control Centre (IATCC).

1.4 IATCC – INTEGRATED ATC CENTRE

The Integrated Air Traffic Control Centre (IATCC) and at the same time the headquarters of ANS CR is outside the city of Prague near the village of Jeneč (14 km from Prague Ruzyně Airport). The ACC air traffic control centre and the technical support and supervision workplace are located in the IATCC facility. The APP workplace together with TWR is situated at Prague Ruzyně Airport.

1.5 CURRENT SURVEILLANCE INFRASTRUCTURE

The ANS CR surveillance infrastructure includes primary (PSR) and secondary (SSR) radars, multilateration systems (WAM/ADS-B), surveillance data distribution system (SDDS), surveillance data processing systems – trackers (ARTAS and T-TK), and data quality and radar performance verification tools.

Primary radars (PSR) are installed at sites as follow: type STAR2000 (THALES) at Prague Airport and type RL-2000 (ELDIS) at airports Brno (LKTB) and Ostrava (LKMT). All these primary radars operate in the frequency band S (2.7 to 2.9 GHz).

Mode S secondary radars (MSSR) type RSM970S (THALES) covered by RADOMES (ESSCO) are installed at Prague Airport and hills BUKOP and PISEK.

Multilateration systems (WAM/ADS-B) type P3D (ERA) are installed at airports Prague (LKPR), Karlovy Vary (LKKV), Brno (LKTB), and Ostrava (LKMT). Instrument range of the WAM systems is from 80 to 120NM creating continuous coverage of entire FIR Prague.

Surveillance infrastructure of ANS CR is completed by resources of SUR data from neighboring countries:

- SSR mode S – Vienna Airport (ACG Austria)
- SSR mode S – Velký Javorník (LPS Slovakia)
- SSR mode A/C – Mittersberg (DFS Germany)
- RSR/SSR mode S – Auersberg (DFS Germany)
- PSR/SSR mode A/C – Dresden (DFS Germany)

1.6 SURVEILLANCE STRATEGY OF ANS CR FOR THE PERIOD 2025 TO 2045

The new PSR in the location of PISEK and BUKOP will create a single continuous primary coverage in FIR Prague from at least 8000ft MSL to 42000ft MSL for aircraft with RCS 5m² and greater.

Primary coverage will be classified as "substitute coverage" for target losses dependent on cooperating technology. In CTR/TMA LKPR, coverage from ATCSMA will be for RCS corresponding to aircraft with RCS of 2m² and greater.

The new SSR in the PISEK and BUKOP locations will create continuous secondary coverage for cooperating targets, which will be complemented by WAM and ADS-B systems to increase the redundancy.

1.7 RADAR PERFORMANCE VERIFICATION

The performance of each element of the surveillance infrastructure is verified after installation, after each repair, and periodic revisions. In the time between revisions, the basic parameters are verified daily using the SASS-C tool.

1.7.1 Performance Verification Tools

- RASS-S (Radar Analysis Support System - Sensor)
- SASS-C (Surveillance Analysis Support System - Centre)
- RAPS-3 (Radar Analysis Playback and Simulation System for Surveillance Data)
- SDAA (Surveillance Data Accuracy Analyser)

The mentioned devices will be available during the parameter tuning period after the mechanical installation and during the Pre-SAT as well as during the SAT itself of radars at PISEK and BUKOP.

1.7.2 Aircraft to Verify Radar Performance

Aircraft will be available to verify the performance of PSR and SSR during pre-SAT and during the actual SAT:

- Beechcraft King Air 350 (RCS we calculate 5m^2), equipped with mode S transponder and ADS-B,
- Cessna 150/152 (RCS is calculated as 2m^2), equipped with mode S transponder.

1.7.3 Surveillance Data Recording

The output data of all PSR, SSR, WAM and ADS-B systems are recorded with archiving for at least 30 days. During the entire period of radar tuning after mechanical installation, during Pre-SAT and during the actual SAT, the records will be available for continuous control and analysis of the output data.

1.8 SURVEILLANCE DATA CHAIN

The PSR and SSR output data from PISEK and BUKOP sites are in ASTERIX format connected via SDDS (Surveillance Data Distribution System) to SDPS (Surveillance Data Processing System), ARTAS (ATM surveillance Tracker and Server) and T-TK (Top Sky-Tracking).

1.9 COMMUNICATION INFRASTRUCTURE

The PSR and SSR data are fed from the PISEK and BUKOP sites to the IATCC via two independent paths using the terrestrial data network, and the third independent path is also available via a satellite link.

1.10 CMOS

The Central Monitoring System (CMOS) is the main tool of technical supervision, which records and presents the current technical status of all ATM systems, including radars, navigation and radio communication devices, through the SNMP protocol. The technical status is long-term archived.

The CMOS is located in the technical room at IATCC. The interface requirements for connecting new PSRs and SSRs from PÍSEK and BUKOP locations are described in Annex 2 of the tender specification (SYS).

2 INSTALLATION ENVIRONMENT

2.1 PÍSEK (PISEK)

A brick, two-storey building with an adjacent steel tower for PSR and SSR antennas, including RADOME, is ready for installation on Písek hill. The building is simultaneously used for radio communication equipment and for DME.

2.2 BUCHTŮV KOPEC (BUKOP)

A six-storey brick building with an adjacent steel tower for the PSR and SSR antennas, including the RADOME, is ready for installation on Buchtův Kopec hill. At the same time, the building is used for radio communication equipment and a part is reserved for recreational purposes of ANS CR employees.

3 THE INSTALLATION SITES

In terms of construction preparation and conditions for installation, PISEK and BUKOP are practically identical. Just next to the building is a steel tower with a walkway on top.

3.1 STEEL TOWER FOR ANTENNA WITH RADOME

The tower construction is steel tube with an internal diameter of 3,2m meters. On the outside, there is a layer (25 cm) of concrete along the entire length of the tower to increase its rigidity. At the top is a platform with a diameter larger than the diameter of the RADOME base for convenient and safe access from the outside. The design of the tower structure is such that the horizontal level tolerance is not subject to deterioration with age or, alternatively, allow for easy adjustment of the level

Access to the upper platform is a spiral staircase inside the tower. A robust grid for attaching cables and a waveguide runs through the centre of the tower. The entire tower interior is illuminated and ventilated with a mild air current to prevent moisture condensation. There are power sockets on the platform for connecting assembly tools and devices.

The electric hoist is used to transport material and tools from the ground to the upper platform. The maximum lifting capacity of the hoist is 500kg.

On the upper platform is a steel flange for the RADOME with drilled holes for the anchor bolts. All dimensions of the flange will correspond to the documentation of the selected RADOME (diameter of the flange, spacing and number of holes for anchoring, size of the contact area). Dimensions and levels will be subject to inspection by the contractor prior to installation. It is assumed that a template specifying the key dimensions will be available for the chosen type of RADOME.

3.2 RADAR EQUIPMENT ROOM

There is a dedicated room in an adjacent building for radar equipment. Close to the radar equipment room is a separate space (small technical room) for the control monitor, radar control elements, power sources and other equipment for monitoring the operation of the entire facility, including the antenna tower. The radar equipment room and the technical room are air-conditioned at $21^{\circ} \pm 3^{\circ}$ all year round.

3.3 POWER SUPPLY

The electronic equipment, including the PSR and SSR antenna drive, will be powered by a UPS with a capacity of 30 minutes. In the event of a loss of voltage from the public power mains, the UPS is automatically switched to a diesel generator with start-up within 3 minutes. When the UPS is overloaded, the by-pass function is automatically activated, and the appliances are connected to the public power mains. Two UPS are connected in parallel to increase the redundancy. The total power consumption of the UPS is 80kVA. It is assumed that the new radars will not exceed 40% of this capacity.

4 CLIMATIC CONDITIONS AT INSTALLATION LOCATION

4.1 TEMPERATURE AND AIR PRESSURE STATISTICS

Climate characteristics based on 1981-2010 normal:

DayMaxT = Daily Temperature Maximum (Average daily maximum temperature in the month/year)

DayMinT = Daily Temperature Minimum (Average daily minimum temperature in the month/year)

DayAvgT = Daily Average Temperature. (Average daily temperature in the month/year)

Precip [mm] = Monthly Precipitation Totals (Total rainfall per month/year)

PrecipDays = Number of days with precipitation >1mm (Number of days with daily total precipitation >1mm per month/year)

Sunshine [h] = Total Sunshine Duration (Total duration of sunshine per month/year)

4.1.1 PISEK

PISEK		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Year
DayMaxT	C	-0,1	1,7	6,3	12,2	17,3	19,9	22,2	21,9	16,7	10,7	3,9	0,1	11,0
DayMinT	C	-5,1	-4,4	-1,0	2,7	7,3	10,2	12,3	12,1	8,5	4,2	-0,5	-3,9	3,5
DayAvgT	C	-2,9	-1,8	2,3	7,0	11,8	14,5	16,6	16,3	12,2	7,1	1,5	-2,2	6,9
Precip	mm	56,5	46,8	55,8	42,9	64,2	68,8	77,1	73,9	58,7	55,6	55,3	64,4	720,1
PrecipDays		12,0	9,7	11,4	8,7	11,1	11,6	11,7	10,8	9,7	9,9	10,7	12,0	129,5
Sunshine	hours	45,4	77,0	109,8	175,1	219,6	215,5	238,4	227,2	155,6	104,8	41,7	29,9	1640,0

4.1.2 BUKOP

BUKOP		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Year
DayMaxT	C	-1,3	-0,1	4,0	10,1	15,5	18,2	20,7	20,9	15,6	10,0	3,2	-0,7	9,7
DayMinT	C	-5,9	-5,3	-2,2	2,0	6,9	9,4	11,5	11,5	7,9	3,7	-1,3	-5,0	2,8
DayAvgT	C	-3,7	-3,0	0,4	5,6	10,9	13,5	15,6	15,5	11,1	6,3	0,8	-3,0	5,9
Precip	mm	47,6	44,4	63,7	55,8	87,9	97,6	107,3	98,1	74,0	43,6	53,3	58,1	831,6
PrecipDays		10,8	10,1	12,1	9,1	10,7	11,4	11,2	10,1	8,9	8,2	10,4	11,5	124,5
Sunshine	hours	56,1	76,7	110,4	167,7	211,0	204,0	228,1	223,2	147,3	115,3	49,6	43,9	1633,3

5 OTHER PRIMARY RADARS BEAR PISEK AND BUKOP SITES

In the vicinity of the PISEK and BUKOP sites, up to a distance of 100 km, there are other primary and secondary radars (mostly military) in operation, which can interfere with the operation of new PSRs in particular. In summary, the risk frequencies (in MHz) are:

2713.50 2718.30 2742.98 2766.00 2777.66 2798.99
 2836.33 2852.33 2868.33 2884.33 2896.00 2820.33

5.1 PISEK RADAR SURROUDINGS

The radars working in S-band with indication of distance from PISEK site:

- 52 km Kbely 2884.33 MHz; 2868.33 MHz; 2852.33 MHz; 2836.33 MHz;
- 78 km Lažany 2766 MHz; 2896 MHz; 2713.5 MHz; 2718.3 MHz;
- 81 km Křiženec 2766 MHz; 2896 MHz; 2713.5 MHz; 2718.3 MHz;
- 95 km Třebotovice 2766 MHz; 2896 MHz; 2713.5 MHz; 2718.3 MHz;

5.2 BUKOP RADAR SURROUDINGS

The radars working in S-band with indication of distance from BUKOP site:

- 11 km Polička 2766 MHz; 2896 MHz; 2713.5 MHz; 2718.3 MHz;
- 47 km Pardubice 2884.33 MHz; 2868.33 MHz; 2852.33 MHz; 2836.33 MHz;
- 55 km Náměšť 2884.33 MHz; 2868.33 MHz; 2852.33 MHz; 2836.33 MHz;
- 58 km Čáslav 2884.33 MHz; 2868.33 MHz; 2852.33 MHz; 2836.33 MHz;
- 70 km Brno 2742.98 MHz; 2777.66 MHz; 2798.99 MHz; 2820.33 MHz;
- 75 km Sokolnice 2766 MHz; 2896 MHz; 2713.5 MHz; 2718.3 MHz;
- 76 km Nepolisy 2766 MHz; 2896 MHz; 2713.5 MHz; 2718.3 MHz;

6 INSTALLATION LOGISTICS

6.1 ACCESS ROAD

At both sites, there is problem-free access to the radar buildings.

At PISEK site, the 4 km route is passable even for small truck on a forest road, the entry permit is required, and the vehicle must be accompanied by ANS CR.

At BUKOP site, there is a 1.5 km journey up a steep hill passable by truck, again the entry permit is required, and the vehicle must be accompanied by ANS CR.

6.2 TRANSPORT OF THE EQUIPMENT

The equipment can be transported from the factory to the village below the hill, then re-loaded in parts to a smaller truck and driven to the top of the hill to the radar building. It is necessary to take into account that large truck cannot be driven up to the top of the hill, as there is limited space for long vehicles to turn. The drivers must make the route inspection in advance before driving.

6.3 MATERIAL STORAGE

Material stored in boxes up to a size of approximately 100x100x100 cm can be stored in the radar building. The larger equipment will remain in front of the building with a temporary cover to protect it from the rain.

6.4 WATCH SERVICE

For the duration of the mechanical assembly of the equipment, the hired guard duty at site in the vicinity of the radar will be authorized to watch all assembly material.

6.5 SUPPORTING MACHINES FOR INSTALLATION

It is assumed that the mechanical installation will take place entirely under the direction of the radar supplier. ANS CR technicians can be present and can help, but without personal responsibility for the method of the assembly are carried out.

For operations requiring a larger number of people, such as the installation of cables and waveguides, ANS CR arranges for unqualified part-timers. In that case, the responsibility for management and the quality of the work performed is fully the responsibility of the radar supplier

6.6 CONNECTION TO POWER MAINS

The connection to the power mains is performed exclusively by an ANS CR specialist. The manufacturer of the radar guarantees the execution of the electrical installation according to the standards valid in the Czech Republic.

6.7 INITIAL REVIEW OF ELECTRICAL INSTALLATION

The initial review of electrical equipment will be performed by an ANS CR review technician.

6.8 CONNECTION TO DATA INFRASTRUCTURE

The connection to the ANS CR data infrastructure will be performed exclusively by an ANS CR specialist.

7 TECHNICAL SPECIFICATION

7.1 TECHNICAL SPECIFICATION CONTENT

Technical Specification is in the Appendix [2] – Contract n. 144 divided into Annexes.

- Annex 1 – INT (Introduction)
- Annex 2 – SYS (PSR and SSR System Specification)
- Annex 3 – PSR (Primary Surveillance Radar Specification)
- Annex 4 – SSR (Secondary Surveillance Radar Specification)
- Annex 5 – RAD (RADOME Specification)
- Annex 6 – GEN (Generally)

Annex 1 – INT

- This Annex describes the environment in which the new radar equipment will be installed and presents possible external influences.

Annex 2 – SYS

- This The Annex lists common requirements for primary and secondary radars.

Annex 3 – PSR

- This Annex specifies the requirements for the primary radar.

Annex 4 – SSR

- This Annex specifies the requirements for monopulse secondary radars. The division into groups of requirements A and B is only for the reason of the large number of items;
- With the exception of a few isolated requirements, all requirements are taken without modification from the document "EUROCONTROL Specification for European Mode S Station (EMS)", Edition: 4.0, Edition date: 17/09/2021, Reference Nr: EUROCONTROL-SPEC-189.
- All annexes, list of abbreviations and other references cited in EMS version 4.0 apply to the specifications.

Annex 5 – RAD

- This Annex specifies the requirements for RADOMES.

Annex 6 – GEN

- This Annex specifies selected requirements from chapters 7, 8 and 9 of the above-cited EMS 4.0.
- Most items apply to both PSR and SSR. Requirements with the note "Adopted from" are derived from EMS requirements.

7.2 TERMS USED IN THE TECHNICAL SPECIFICATION

The Tenderer

The Tenderer means the company submitting the Tender. The Tenderer will process the offer in the form of answers to each requirement listed in the technical specifications

The Contractor

The Contractor means the successful Tenderer to whom the contract arising from the Tender has been awarded. Where the technical specification requires some documents or additional information to be handed over, a date will be set for the progress meeting

The Agency

The Agency is an authority responsible for procurement. In this case, it is Air Navigation Services of the Czech Republic (ANS CR). The term "Client" used in the commercial contract marked "Contract for work" has the same meaning.

The Radar or Radar System

The term "Radar" means primary (PSR) or secondary radar (SSR or SSR). The term "Radar System" means collocated PSR and SSR with mechanically coupled antennas.

7.3 SPECIFICATION LANGUAGE

Throughout this document, the use of the word '**Shall**' indicates a mandated criterion; i.e. compliance with the particular procedure or specification is mandatory and no alternative can be applied.

The use of the word '**Should**' indicates that though the procedure or criterion is regarded as the preferred option, alternative procedures, specifications or criteria can be applied, provided that the manufacturer, installer or tester can provide information or data to adequately support and justify the alternative.

The use of the word '**May**' indicates an optional requirement and the use of '**Will**' a statement of intent.

The leftmost column of the specification contains the requirement identification number. Two patterns of identification are used:

- The first pattern is taken without change from the document "EUROCONTROL Specification for European Mode S Station (EMS)"
 - o Example: EMS-C04-SYS-SHO-00000, where:
 - "EMS" is reference to EUROCONTROL document
 - "C04" is number of a chapter in the EMS,
 - "SYS" is the chapter name (Functional Requirements)
 - "SHA" – shall, or "SHO" – "should" or "MAY" - may
 - "00000" is a serial number within the respective chapter
- The second pattern is taken from ANS CR internal register
 - o Example: ANS-RAD-SHA-00000, where:
 - "ANS" is an indication of originator
 - "RAD" is the Annex name
 - "SHA" – shall, or "SHO" – should or "MAY" - may
 - "00000" is a serial number within the respective Annex

In the rightmost column, there is a requirement for the content of the answer and the method of awarding the number of points. Example for item 02050 in the chapter SYS:

SYS-SHA-02050	Expected simple answer "C" or "NC"	
SYS-SHA-02050	Expected answer "C" and additional information as required under this item.	Q
SYS-SHA-02050	Expected answer "C" and additional information as required under this item. We will evaluate the usefulness and assign the highest number of points to the answer with the greatest numerical or performance value.	Q/A/max/N
SYS-SHA-02050	Expected answer "C" and additional information as required under this item. We will evaluate the usefulness and assign the highest number of points to the answer with the lowest numerical or performance value.	Q/A/min/N

SYS-SHA-02050	<p>Expected answer "C" and additional information as required under this item.</p> <p>We will evaluate the item as fulfill or not fulfill. If the requirement is met, Tenderer gets N points, if not met, Tenderer gets 0 points. Typically used for options that are either available or not available.</p>	Q/A/N
---------------	--	-------

The number of "N" points reflects the severity of the relevant parameter. The options are 5, 10, 15 or 20 points.

Some requirements contain example of the answer, introduced by italics text "Example of the answer". Values stated in Example answer are arbitrary. The Tenderer is expected to use its system's actual values in the answer.

Some requirements contain „Note“ the text which is used to explain the reason or details of the requirement.

7.4 COMPLIANCE MATRIX FILL INSTRUCTION

The Tenderer compliance status shall be indicated against each requirement of this specification in the Annex 10 - Compliance Matrix.xls file with:

For '**SHA**' mandatory requirements (i.e., formulated with a "**shall**"):

- a. A '**C**' for Compliance. This response indicates that the requirement is fully met in all respects, exactly as stated in this specification;
- b. A '**NC**' for Not Compliant;
- c. A '**NO**' for requirements related to options Not Offered.

For '**SHO**' preferable requirements (i.e., formulated with a "**should**"):

- a. A '**C**' for Compliance. This response indicates that the requirement is fully met in all respects, exactly as stated in this specification;
- b. An '**AC**' for Alternative Compliance. This response indicates that the Tenderer, despite the preferred option, presents an alternative that can be supported and justified as an equal or better substitute. The alternative shall be detailed in the tender response;
- c. A '**NC**' for Not Compliant.

For **'MAY'** optional requirements (i.e., formulated with a **"may"**):

- a. A **'C'** for Compliance. This response indicates that the option is offered, it will meet the requirements in all respects, exactly as stated in the specification,
- b. An **'AC'** for Alternative Compliance. This response indicates that the Tenderer, despite the preferred option, presents an alternative that can be supported and justified as an equal or better substitute;
- c. A **'NC'** for Not Compliant.

When a **'C'** response is present for a requirement for the Tenderer, this indicates that the required information is supplied complete as requested in the specification and the information shall become contractual after the signature of the contract.

No other responses will be recognised during the evaluation and absence of **'C'**, **'C ST'**, **'AC'**, **'NO'** or **'NC'** will be counted as Non-Compliant, as well as statements such as 'Read and understood'.

8 ACRONYMS

Acronyms used within the Annexes of the Tender. If an acronym meaning is missing and is not clear from the context of the requirement, the Tenderer is expected to raise a formal query.

AMSL	Above Mean Sea Level
ASTERIX	All Purpose Structured Eurocontrol Surveillance Information Exchange
BITE	Built-In Test Equipment
BUKOP	Buchtuv Kopec – one of the radar Sites.
CD	Compact Disk
CMOS	Central Monitoring and Control System – Agency's own monitoring system
CMS	Control and Monitoring System
COM	Generally, communication Equipment
CPU	Central Processing Unit
dB	Deci-Bell
DF	Downlink Format
FAR	False Alarm Rate
FAT	Factory Acceptance Test(s)
FRUIT	False Reply Unsynchronized in Time
GPS	Global Positioning System
HMI	Human-Machine Interface
HPA	High Power Amplifier
ICD	Interface Control Document
LCMS	Local Control and Monitoring System
LAN	Local Area Network
LNA	Low Noise Amplifier
LRU	Lower Replaceable Unit

MIB	Management Information Base
MSL	Mean Sea Level
MSSR	Monopulse Secondary Surveillance Radar
MTD	Moving Target Detection, Moving Target Detractor
NAI	Non-Automatic Initiation
NAV	Generally, navigation equipment
NM	Nautical Mile(s)
NTP	Network Time Protocol
Pd	Probability of Detection
PISEK	One of the radar Sites at Písek Hill.
PSR	Primary Surveillance Radar
RADOME	Radar Dome (radar antenna cover)
RCMS	Remote Control and Monitoring System
RCS	Radar Cross Section
RF	Radio Frequency
RPM	Rotation(s) Per Minute, Revolution(s) Per Minute
SAT	Site Acceptance Test(s)
SNMP	Simple Network Management Protocol
SSR	Secondary Surveillance Radar
STALO	Stable Local Oscillator
STC	Sensitivity Time Control
SUR	Generally, surveillance equipment
UF	Uplink Format
USB	Universal Serial Bus
UTC	Universal Time Coordinated

WAM	Wide Area Multilateration
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Other acronyms are explained in the original EMS document.

Acronyms SSR and MSSR are used throughout all the Annexes and in the Tender's case both are referring to the secondary part of the system which is considered as a monopulse.

9 REFERENCE MATERIAL

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