tait
communications

TAIT COMMUNICATIONS PROPOSAL FOR TN9400 P25 TRUNKING RADIO SYSTEM TO LEXINGTON-FAYETTE URBAN COUNTY KENTUCKY COUNTY-WIDE COMMUNICATIONS
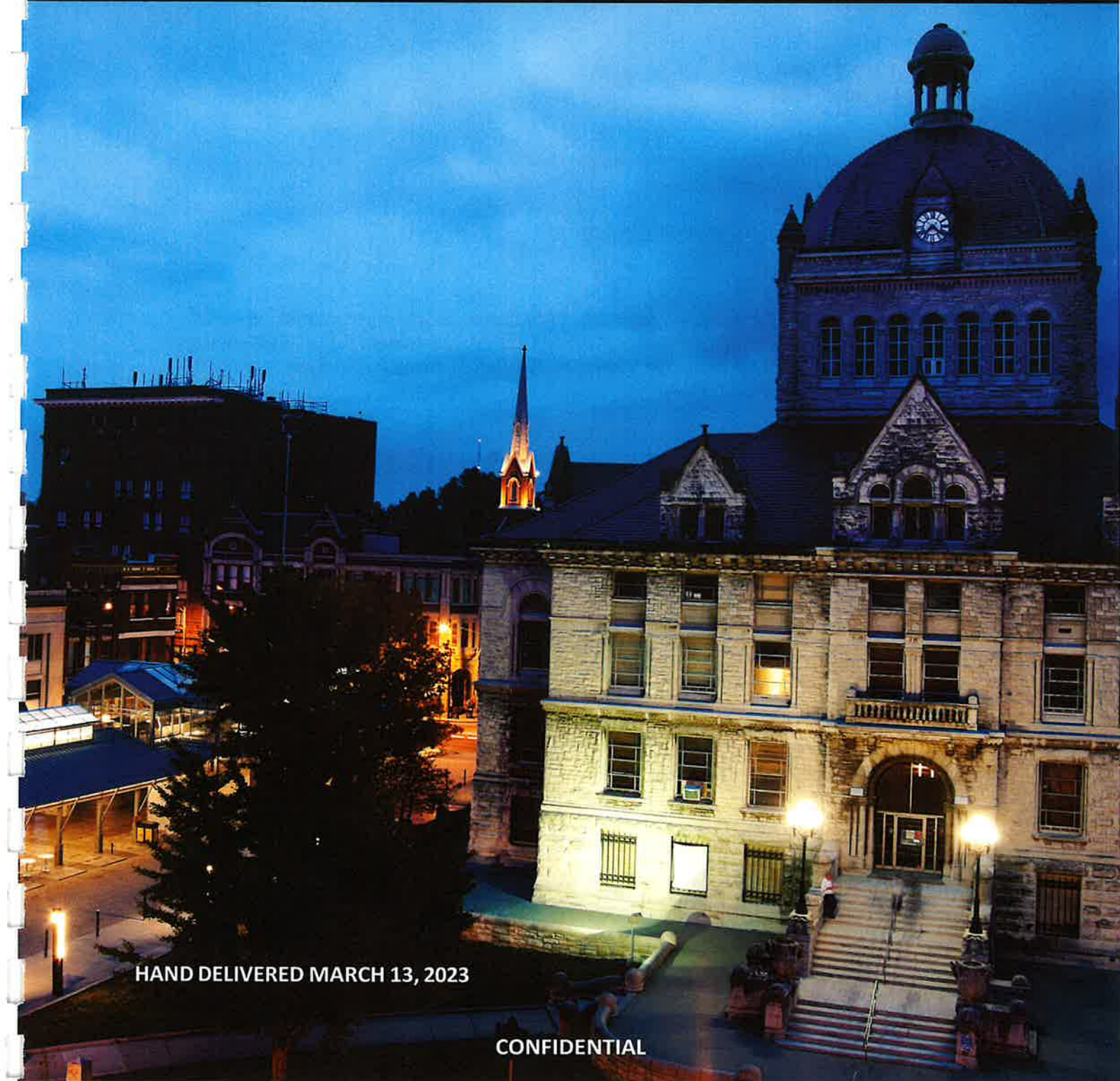
HAND DELIVERED MARCH 13, 2023

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TAIT PROPOSAL TO LEXINGTON-FAYETTE URBAN COUNTY KENTUCKY COUNTY-WIDE COMMUNICATIONS

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EXECUTIVE SUMMARY

The Lexington-Fayette Urban County Government, Kentucky (LFUCG) presents a unique landscape for public safety agencies charged with protecting life and property in very diverse environments.

From densely populated urban centers to open farmland, these contrasting characteristics create communications challenges that make the job of First Responders extremely difficult. At Tait, we believe we are the only vendor that can provide the imperative combination of proven, robust technology, deployed by committed team members with vast experience in this environment to upgrade the current P25 Trunked Simulcast Network.

LFUCG's County-wide communications mission is to provide a communications system capable of meeting both the current and future needs, reliably and functionally. LFUCG requires and deserves a purpose-built radio system, custom-designed, from the ground up, to operate in this unique environment, delivered by a company with the knowledge, experience and skill set to ensure its purpose-built system provides superior performance now and into the future.

IN SUMMARY

Tait Communications believes it has provided LFUCG with the most comprehensive and leading-edge digital radio solution available in the industry today. Tait radios are available at competitive prices for the life of the system. Tait's flexibility would not be possible with other manufacturers' proprietary systems.

TAIT COMMUNICATIONS

Tait Communications is a global provider of Land Mobile Radio (LMR) products, systems, and solutions. We take pride in our ability to design, deliver, and manage innovative communication solutions that help public safety organizations keep their communities safe.

WHAT IS OUR DIFFERENCE?

For over fifty years, we have worked hard to gain and maintain a deep understanding of the issues, problems, and day-to-day working environments of our customers. From 150-plus-site mission-critical systems in the United States to a 408-site nationwide network in New Zealand, Tait solutions have been developed through years of experience and ongoing investment in cutting-edge technology. This depth of understanding, and our belief in championing open-standards technology, means we can give our customers the best possible choices and value to help them achieve their goals.

Thank you for the opportunity! Your point of contact is:

KEITH CHAFIN
Channel Manager, Eastern Region
Tait Communications Americas
15352 Park Row Drive, Houston, TX 77084
Phone: +1 (281) 923-0144
Email: Keith.Chafin@taitcommunications.com

SECTION 2
PRICING PROPOSAL

TAIT PROPOSAL TO LEXINGTON-FAYETTE URBAN COUNTY KENTUCKY COUNTY-WIDE COMMUNICATIONS

CONFIDENTIAL

Tait North America Inc
15352 Park Row Drive
Houston
Texas 77084
United States of America

BILL OF MATERIALS
PRICING PROVIDED SEPERATELY

tait communications

For the attention of:	
Client	LFUCG - TN9400 Migration
Quote Number	111260_20230309
Total Price	
Currency	USD
Date	Thursday, March 9, 2023
Project Name	Lexington-Fayette, KY Airbus Managed Service Contract
Project Description	Airbus (Vesta) migration to TN9400 P25 Trunking Radio System
	P25 Phase 1, 800MHz
	1 Simulcast Cell, 5-sites, 10-channels
	1 Multicast Cell, 1-site, 4-channels -> 4

Prepared by: Mark Reeves

Section	Build With	Rack With	Part Number	Description	SA	Qty	Unit List	Discount	Unit Sell	Ext'd Sell	Section Total
100			RFSS Servers and Site Controllers for Simulcast Cell #1			1					
100.01			TN9400-1001-0000-0000-10	P25 RFSS & Site Cntrlr Hi Level AC	Y	2					
100.02			TNAS5524	License Trunk P25 RFSS/SC - Express6 RFSS Site Cntrlr & HA	Y						
100.03			TNAS5502	License P25 Trkd RFSS - Enable IP & OTAP	Y	1					
100.04			TNAS5505	License P25 Trkd RFSS - CSSI Console System	Y						
100.05			TNAS5506	License P25 Trkd RFSS - Voice Recorder	Y						
100.06			TNAS5508	License P25 Trkd RFSS - ISSI Inter System	Y						
100.07			TNAS5509	License P25 Trkd RFSS - Analog Gateway	Y	20					
100.08			TNAS5516	License P25 Trkd System Transceiver	Y	54					
101			BGA Multicast Site Controller			1					
101.01			TN9400-3301-0000-0000-10	P25 SC - Controller High Level 110-230VAC	Y	1					
101.02			TNAS5525	License Trunk P25 SC - Express6 Site Cnlrlr & HA	Y						
110			Tait Enable			1					
			EnableMonitor								
110.01			TE1000-0201-0001-A8A8-10	E-Monitor Srvr AC Ess 250 mrt devices 1yr main	Y	1					
			EnableInsight								
110.02			TE1004-2110-1010-2102-10	EnableInsight Small N/W (<=24 Channels)	Y	1					
900			Services for LEX Migration to TN9400			1					
02.01			SVF-PLN	Services - Project Management		1					
02.02			SVF-SYS	Services - System Design		1					
02.03			SVF-COM	Services - Commissioning		1					
02.04			SVF-SAT	Services - Site/Syst Acceptance Testing		1					
02.05			L-T&L	Travel and Lodging		1					
920			Training			1					
920.01			SVF-TDL	Services - Training Delivery		10					
940			Tait Advantage			1					
			Tait Advantage								
940.01			SRVADV-INW-TAM-1	Tait Advantage TAM Yr#1 Infra No Warrant		1					
940.02			SRVADV-INW-TAM-2	Tait Advantage TAM Yr#2 Infra No Warrant		1					
940.03			SRVADV-INW-TAM-3	Tait Advantage TAM Yr#3 Infra No Warrant		1					
940.04			SRVADV-INW-TAM-4	Tait Advantage TAM Yr#4 Infra No Warrant		1					
940.05			SRVADV-INW-TAM-5	Tait Advantage TAM Yr#5 Infra No Warrant		1					
940.06			SRVADV-INW-TAM-6	Tait Advantage TAM Yr#6 Infra No Warrant		1					
940.07			SRVADV-INW-TAM-7	Tait Advantage TAM Yr#7 Infra No Warrant		1					
940.08			SRVADV-INW-TAM-8	Tait Advantage TAM Yr#8 Infra No Warrant		1					
940.09			SRVADV-INW-TAM-9	Tait Advantage TAM Yr#9 Infra No Warrant		1					
940.1			SRVADV-INW-TAM-10	Tait Advantage TAM Yr#10 Infra No Warrant		1					
			Extended Hardware Maintenance								
940.11			EPW-INF-TAM-1	Extended Warranty TAM Infrastructure Yr#1		1					
940.12			EPW-INF-TAM-2	Extended Warranty TAM Infrastructure Yr#2		1					
940.13			EPW-INF-TAM-3	Extended Warranty TAM Infrastructure Yr#3		1					
940.14			EPW-INF-TAM-4	Extended Warranty TAM Infrastructure Yr#4		1					
940.15			EPW-INF-TAM-5	Extended Warranty TAM Infrastructure Yr#5		1					
940.16			EPW-INF-TAM-6	Extended Warranty TAM Infrastructure Yr#6		1					
940.17			EPW-INF-TAM-7	Extended Warranty TAM Infrastructure Yr#7		1					
940.18			EPW-INF-TAM-8	Extended Warranty TAM Infrastructure Yr#8		1					
940.19			EPW-INF-TAM-9	Extended Warranty TAM Infrastructure Yr#9		1					
940.2			EPW-INF-TAM-10	Extended Warranty TAM Infrastructure Yr#10		1					
			HW refresh at year 5								
940.21			TN9400-1001-0000-0000-10	P25 RFSS & Site Cntrlr Hi Level AC	Y	2					
940.22			TN9400-3301-0000-0000-10	P25 SC - Controller High Level 110-230VAC	Y	2					
940.23			005-00228-00	SERVER Dell PowerEdge R250 (EnableMonitor)	Y						
940.24			005-00230-00	SERVER Dell PowerEdge R250 (EnableInsight)	Y						
940.25			005-00232-00	SERVER Dell R450 AC MS SQL 2019 Std 5 user CAL (EnableInsight)	Y	1					
			SA - EnableMonitor								
940.26			TEMMC101	Tait EnableMonitor <250 dev Soft Maint		10					
			*required software maintenance after first year								
			SA - EnableInsight								
940.27			TEIS101	EnableInsight Sml N/W S&M Yearly		10					

Incoterm: CIP   TAM
Validity: 30 Calendar Days

4/25/2023

SECTION 3
TAIT MAINTENANCE AGREEMENT

TAIT PROPOSAL TO LEXINGTON-FAYETTE URBAN COUNTY KENTUCKY COUNTY-WIDE COMMUNICATIONS

CONFIDENTIAL

- WVRB
- PSOC
- FDCOMM
- FCPS

2.3 Except in response to warranty claims during the warranty period for any Product, Tait may supply new, second-hand or reconditioned replacement parts in the performance of Services or Excepted Services, as described in Paragraph 7 below.

2.4 Only the Services described in Paragraphs 5 (Maintenance Services) and 6 (Core Network Migration Services) as being in scope for this Agreement shall be provided. Tait shall not provide the Excepted Services.

3. PAYMENT

3.1 Payment for the deliverables in this Agreement will be a total of USD **$4,085,406.00**. payable over ten years as follows and will be paid according to the terms in Clause 2 of Section B - Terms and Conditions:

a) Year 1, July 1, 2023 - June 30, 2024: $388,829

b) Year 2, July 1, 2024 - June 30, 2025: $388,358

c) Year 3, July 1, 2025 - June 30, 2026: $405,435

d) Year 4, July 1, 2026 - June 30, 2027: $404,861

e) Year 5, July 1, 2027 - June 30, 2028: $404,226

f) Year 6, July 1, 2028 - June 30, 2029: $408,804

g) Year 7, July 1, 2029 - June 30, 2030: $413,573

h) Year 8, July 1, 2030 – June 30, 2031: $418,538

i) Year 9, July 1, 2031 – June 30, 2032: $423,704

j) Year 10, July 1, 2032 – June 30, 2033: $429,077

4. OBLIGATIONS OF THE CLIENT

4.1 First-Line Support – the Client shall undertake the following First Line Support actions and acknowledges that the commitments and pricing provided by Tait under this Agreement are dependent on the prompt and proper performance of those First-Line Support obligations:

4.1.1 engage the Services by contacting the Tait Service Desk as set out in Clause 5.1.2 of this Agreement;

4.1.2 immediately after making a request for Tait support, provide Tait, where possible, an example of the relevant defect or error;

4.1.3 keep Tait fully informed with up-to-date product, site and configuration details for the Products, including without limitation product serial numbers, locations, contact information, and site personnel qualified to submit service incident requests;

4.1.4 have personnel with sufficient Product related training to be able to (i) carry out basic operating system housekeeping, and (ii) work through complex procedures with remote guidance provided by Tait

4.1.5 carry out procedures for the rectification of errors or malfunctions within a reasonable time after such procedures have been received from Tait;

5.1.2   Tait's 24x7x365 contact number to be called for all support issues covered by this agreement is **1-844-491-9818**.

5.2   Online Client Service Portal and Technical Resources

5.2.1   Tait will provide access to the Online Client Service Portal and Technical Resource website to the Client.

5.2.2   Tait will issue the Client applicable login(s) and password(s).

5.2.3   The Client will be able to access the following information through the Tait Online Client Service Portal:

   a)   Programming and Calibration Application (Downloadable)

   b)   Service Kit (Downloadable)

   c)   Service Case: Creation, History, Status Updates

5.2.4   The Client will be able to access the following information via the Technical Resource sites:

   a)   Documentation: Accessories, Installation, Integration, Product Specifications, Standard User, Service

   b)   Frequently Asked Questions and Search Facility

   c)   Technical and Software Release Notes

5.3   Software Maintenance

5.3.1   Client is entitled to receive Software and firmware releases relevant to and within the licensed feature set of the Tait-Branded Products purchased by the Client, including the software provided as part of Paragraph 6, Core Network Migration Services, as well as for the existing Tait base stations in the Client's system. For the avoidance of doubt, once any product which reaches end of support, Tait will not issue any more releases of software.

5.3.2   Access to the Software releases referred to in Clause 5.2.1 shall be requested through the Online Client Service Portal or via email serviceadvantage@taitcommunications.com.

5.3.3   Any Tait Services or hardware required for the implementation of a Software release may be purchased from Tait at an additional charge (unless stated otherwise in this Agreement).

5.3.4   Tait will provide Technical Support (described in Clause 5.2, Online Client Service Portal and Technical Resources) for the current and up to three previous releases of Software and firmware. Technical Support for previous Software releases is at Tait's discretion and may be subject to Additional Charges.

5.3.5   Tait shall maintain (i.e., provide bug fixes, modifications, and improvements) only the current Software release for any Product. If Client has a Problem with a non-current release of Software, Client may be required to install the most current version of Software in order to remedy such Problem if Tait is unable to provide a bugfix for one of the three previous releases of Software which the Customer may be using.

5.3.6   This Paragraph and the Support Fees do not include the provision of Client requested enhancements, modifications, or developments. Any such enhancement, modification or development may be requested by Client via the Tait Service Desk. Tait at its option may (a) provide the Client with a quotation for undertaking the request; and / or (b) endeavor to include the request in a future Software release; or (c) where not feasible for commercial, technical, or other reasons, decline the request.

5.4   Basic Security Services

6.4.1 Once the design review has been conducted and the migration plan has been finalized, Tait will execute the migration plan. Tait services will be provided to support this migration both on-site and remotely. Clarification on the method of support will be determined during the design.

6.4.2 The migration plan will include the User / Subscriber Radio Configuration as well as fallback plans should preliminary tests indicate the migration to the new core network is not successful.

6.5 Installation and Commissioning of EnableInsight server will be conducted prior to completion of the core network migration.

7. EXCEPTED SERVICES

The services to be provided by Tait under this Agreement comprise only the services set out in Paragraph 5 above. If Client requests Tait to provide any Excepted Services, then Tait may, at its sole discretion, charge Client for the provision of the Excepted Services at the service rates current at the time of the request. Tait will provide a written quotation and estimated completion date for the provision of any Excepted Services prior to Client authorizing such provision. Tait will not be required to perform the following services (the "Excepted Services"):

7.1 Improvements to backhaul system as required during the life of the Client's system. For avoidance of doubt, the current backhaul system is sufficient for the core migration planned.

7.2 Correction of faults due to Client's modification, neglect or misuse of the Products, failure to maintain a suitable environment for the operation and maintenance of the Products (including without limitation power supply, air conditioning or humidity control) in accordance with normal industry practices and as set out in the published data sheets, manuals or other written instructions for the Products;

7.3 Correction of damage caused by any accident or disaster, fire, flood, water, wind, lightning, vandalism or theft;

7.4 Correction of faults in any attachments or associated equipment (whether or not supplied by Tait) which do not form part of the Products;

7.5 The relocation or transportation of Products, or the rectification of any faults caused by such relocation or transportation, (save where performed by Tait or Authorized Partner);

7.6 The provision of any modification or any upgrades designed to provide new or enhanced functionality unless this is incidental to the Services or provided for under agreed upgrades (e.g. Software Support);

7.7 Correction of any fault which would be remedied by a software release or other repair which meets the original specifications for the Products, and which has been refused by Client.

8. CLIENT RESPONSIBILITY

The parties agree that the tasks listed below are the sole responsibility of the Client:

8.1 Approval of design and test plans submitted by Tait for review.

8.2 The coordination with Federal, state and local government agencies for required permitting and approvals.

8.3 Maintenance of the backhaul system.

8.4. Provision of power connections for node controllers. If the power is not currently in place, the Client will provide a connection at their expense.

9. CHANGE REQUEST

9.1 No action on any changes to the Scope of Work of this Agreement will be taken until the official Change Request has been signed by Client and received and approved by Tait. Responsibilities

1.3 TITLE AND RISK OF LOSS. Title to equipment supplied under this agreement shall pass to the Client upon full payment to Tait for such equipment. Risk of loss to the Equipment will pass to Client upon delivery of the Equipment, except that title to Software will not pass to Client at any time. The Client acknowledges this Agreement creates a security interest in favor of Tait in Products supplied by Tait to the Client which have not been paid for in full, as security for payment of all monies payable from time to time to Tait by the Client and for the performance of all the Client's other obligations from time to time to Tait. The Client shall do anything including signing and delivering any documents Tait reasonably requires to ensure Tait has a perfected security interest in goods supplied. The Client waives any rights it may have to receive a statement regarding registration of the security interest.

2. PAYMENT TERMS

2.1 Client shall pay Tait (i) for Year 1, within 60 days from the Invoice Date and (ii) For Year 2 onwards, within 30 days of invoice date. Tait will invoice the Client 30 days before the yearly Commencement Date.

2.2 Overdue invoices will bear interest at a rate of 1.25% per month of the overdue amount for every month or fraction thereof, unless such rate exceeds the maximum allowed by law, in which case it shall be reduced to the maximum allowable rate.

2.3 No payment may be withheld by the Client by way of set-off (legal, equitable or otherwise) against any sums owed to Tait.

2.4 Prices are inclusive of packing to full normal shipping standards. Contract price are inclusive of freight charges.

2.5 Prices for Equipment are exclusive of any taxes, if any. Client shall reimburse Tait where Tait pays the same or is responsible for payment of all such taxes including penalties where Client actions resulted in incurring such penalties.

2.6 If Client requires Tait to vary quantities, delivery dates or Equipment specifications from those against which prices were quoted; Tait shall have the right to adjust the quoted price.

2.7 Tait may increase the Fee and the rates for Additional Charges from each anniversary of the Effective Date by written notice to the Client. The amount of such increase will not exceed the increase in the Consumer Price Index or its equivalent in the country the Services are provided. Tait shall also be entitled to vary the Fee if Client requests an increased level of Services, Services for Additional Products or if there is any other variation requested by Client with respect to this Agreement.

2.8 If Client requests Tait to provide any Excepted Services, as described above in Clause 7 (Excepted Services) of the Agreement, Tait shall be entitled to charge for the same at rates to be agreed in advance between the parties or failing such advance agreement at Tait standard Additional Charges for the relevant services. If requested, Tait shall provide a written quotation and estimated completion date for provision by Tait of any Excepted Services.

3. INSPECTION AND TESTING

3.1 The Equipment will be submitted to Tait's standard tests before shipment.

3.2 Any additional tests of the Equipment, which may be required by Client, must be agreed to separately in writing and may be subject to additional charges.

3.3 SYSTEM ACCEPTANCE. During system acceptance testing:

a) If the Acceptance Test Plan includes separate tests for individual subsystems, both parties shall promptly execute certificates of subsystem acceptance upon the successful completion of testing of such subsystems. For avoidance of doubt there will be no acceptance testing

d) For custom work completed and/or work that includes unique materials that cannot be sold to other Tait Clients in a reasonable period of time, then the cancellation fee may be 100%.

5. TERM AND TERMINATION

5.1 TERM. The initial term of this Contract will begin July 1, 2023, or on the date the Contract is fully signed by all Parties, whichever is later, and will expire June 30, 2033, unless terminated earlier in accordance with Clause 5.2 below.

5.2 TERMINATION: Either Party may terminate the Agreement immediately at any time by written notice to the other:

   a) If the other Party commits a material breach of the Agreement which it fails to remedy within 30 days of receiving written notice requiring it to do so, except that in the event of a breach of confidentiality, the affected party may immediately terminate this Agreement; or

   b) If the other Party becomes insolvent, has an administrator, receiver or manager appointed of the whole or any part of its assets or business, makes any composition or arrangement with its creditors, takes or suffers any similar action in consequence of debt or an order or resolution is made for its winding-up dissolution or liquidation (other than for the purpose of solvent amalgamation or reconstruction) or any event occurs in a foreign jurisdiction analogous to, or comparable with any of the above.

5.3 In the event no funds or insufficient funds are appropriated and budgeted by the Client or are otherwise unavailable for fulfilling the requirements of the Contract, the Client may terminate this Agreement, effective on the last day of the fiscal period for which appropriations are received. Client will promptly notify Tait or its assignee of such occurrence.

5.4 If a party is unable to perform its obligations within 60 Days after the commencement of a Force Majeure event, the other party may terminate this Agreement by notice in writing in accordance with this Section 5.2 (Termination).

5.5 In the event this Agreement is terminated, Tait shall be entitled to receive compensation commensurate with work completed in accordance with the schedule stated in Clause 4.4 above.

5.6 Except as expressly stated elsewhere in the Agreement, any termination of the Agreement (howsoever occasioned) shall not affect any accrued rights or liabilities of either Party nor shall it affect the coming into force or the continuance in force of any provision which is expressly or by implication intended to come into force or continue in force on or after that termination. Notwithstanding the foregoing, the Parties agree that the equitable remedy of specific performance of either Party is hereby expressly excluded.

5.7 Tait shall be entitled to suspend contractual performance under the Agreement (with performance beginning as soon as reasonably practicable after rectification of the ground(s) for suspension) when Client is in default in respect of any of its obligations under this Agreement.

5.8 Upon termination or expiration of the Agreement Tait shall cease the provision of the Services and Client shall have no further access to the Online Client Service Portal, Software Maintenance or 24x7 Service Desk. The Client may contact the Tait Service Desk during Business Hours and will receive a quotation for any service it wishes to access. Note that in order to resume Support Services after a period of termination Client may be required to pay a service resumption fee.

6. INSURANCE

6.1 Tait shall provide and maintain for the duration of this Agreement minimum insurance coverage as follows:

Minimum Liability Insurance requirements:

8. REPLACEMENT AND SPARE PARTS

8.1 Where parts of the Products have been replaced and provided by Tait, title in the parts replaced will pass to Tait upon removal of those parts from the Client system.

8.2 Subject to Clause 1.3, Title in all replacement parts for the Products provided by Tait in performing the Services (except for Software) will pass to the Client upon installation.

8.3 In the case of products and services for which an Additional Charge is payable by the Client, title in such replacement parts shall pass to the Client on full payment of the Additional Charge.

8.4 Tait requires Client to purchase and store at the Site (or other location agreed in writing between the Parties) the Critical Spares outlined below. From time-to-time Tait may additionally require the Client to purchase and store at the Site such spare parts, as Tait considers necessary for the provision of effective Support Services.

- No critical spares required

8.5 Tait will not be liable for any failure or delay in providing the Services where such failure or delay is the direct or indirect result of the failure of the Client to comply with the previous clause.

9. RETURN OF INVENTORY

9.1 Quoted delivery periods are calculated from the last to occur of:

a) Tait's acceptance of the Client's order, or

b) provision by the Client to Tait of all engineering and configuration details and Client supplied parts and materials necessary to enable Tait to manufacture and supply the Equipment; or

c) receipt of any necessary letter of credit, in the agreed form or a form acceptable to Tait, and other required documentation (including any confirmation or guarantee).

9.2 In the event where Tait drop ships equipment at the Client's request, the Client shall indemnify Tait for all losses and costs incurred by Tait if Customs Service refuses or fails to accept delivery of the Equipment including storage charges incurred by Tait with any third-party warehouse. In those circumstances, delivery to a warehouse shall be deemed to be a completed delivery by Tait.

9.3 Shipments for accounts which exceed the credit limit, as determined by Tait, or for accounts with outstanding balances more than 30 days old are subject to credit hold at the discretion of Tait.

10. TERRITORIAL RESTRICTIONS

10.1 The Client shall not without the express written approval of Tait export or use the Equipment, or sell or hire it to a person who to his knowledge intends to export or use it, outside the country of intended use as declared to Tait. The Client undertakes to comply with United States re-export control restrictions where applicable.

10.2 If export or import restrictions are imposed or export or import licenses are cancelled, withdrawn or not renewed, then the Client shall pay for all goods and services already delivered at the contract rate and payments already made may be used by Tait in respect of claims or demands made or losses incurred under or in connection with the Contract.

11. INTRINSICALLY SAFE PRODUCT

IF the Client purchases Intrinsically Safe (IS) Products (both IS radios and/or IS accessories), THEN specific additional terms shall apply.

13.6 Confidentiality of the Online Client Service Portal. Unless otherwise indicated, information provided to the Client via the Online Client Service Portal is copyrighted by and proprietary to Tait International Ltd (Tait) and may not be copied, reproduced, transmitted, displayed, performed, distributed, sublicensed, altered, stored for subsequent use or otherwise used in whole or in part in any manner without Tait's prior written consent.

14. INTELLECTUAL PROPERTY

14.1 TAIT SOFTWARE: All patents, trademarks, service marks or business names, registered designs, copyrights, design rights, utility models, topography rights, applications to register any of the aforementioned rights, trade secrets, knowhow and rights of confidence and any other intellectual or industrial property rights of any nature whatsoever in any part of the world ("IPR") arising under the Agreement, except to the extent that they comprise or incorporate IPR supplied by Client, shall vest in and be owned by Tait absolutely and Client shall acquire no right, title or interest therein. Tait hereby grants at no additional charge to the Client a limited non-transferable and non-exclusive multi-site license to use the Software (excluding source code) (whether embedded or installed in the Equipment) solely in conjunction with the Equipment during the useful life of such Equipment, as they may be repaired or modified from time to time.

14.2 COPYRIGHT: Any computer program, firmware or other software forming part of the Products or supplied by Tait to Client pursuant to the Agreement ("Software") and/or IPR provided to Client under the Agreement shall remain the exclusive property of Tait (or its partners) and such Software and IPR shall, unless otherwise agreed in writing, be licensed to Client under the license terms applicable to the products, equipment, software or systems which they replace or to which they relate. NO TITLE OR OWNERSHIP RIGHTS TO THE SOFTWARE OR ANY OF ITS PARTS IS TRANSFERRED TO CLIENT. The Client undertakes throughout the term of this Contract and after termination of this Contract to not copy, (other than for back-up purposes authorized by Tait), alter, reverse engineer, modify, enhance, compile, disassemble, license, sub-license, lease, sell, assign or reproduce any software, (whether in whole or in part) supplied under this Contract and to write or develop any derivative software or any other software programs based upon the Software. The Software shall not be used for any purpose other than operation and maintenance of the Equipment.

14.3 Data and information embodied in Tait's documents, drawings, and software or in hardware shall be held in confidence by the Client and shall not be disclosed to third parties nor used for any purpose other than operation and maintenance of the Equipment. The Client shall take reasonable measures, but at all times at least the same degree of care it maintains for the confidentiality of its own Confidential Information, to protect confidentiality and will not cause or permit anything which may damage or endanger Tait's goodwill, trademarks or intellectual property in the software or Equipment. If Client receives a Freedom of Information request (FOIA), Client shall provide Tait notice of such request and allow Tait the opportunity to object or to seek an exception under the FOIA request.

14.4 INJUNCTIONS. The Client acknowledges that Tait's intellectual property in the Software and Equipment is unique and extraordinary and the Client agrees that the loss thereof cannot adequately be compensated by damages and that, without limiting Tait's remedies, Tait shall be entitled to injunctive relief to enforce the provisions applicable to this Agreement.

14.5 NON-TAIT SOFTWARE. Any Non-Tait Software furnished by Tait will be subject to the terms and restrictions of its copyright owner unless such copyright owner has granted to Tait the right to sublicense such Non-Tait Software, in which case said software's use and care shall be as provided in this Agreement.

ARISING OUT OF THIS AGREEMENT HOWEVER IT ARISES, WHETHER FOR BREACH OR IN TORT, UNDER AN INDEMNITY, EQUITY OR OTHERWISE, EVEN IF THAT PARTY HAS BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

17.3   No action for a breach of this Agreement or otherwise relating to the transactions contemplated by this Agreement may be brought more than one year after the accrual of such cause of action except for money due upon an open account.

17.4   To the maximum extent permitted by law, the parties agree that ALL TERMS IMPLIED BY LAW INCLUDING ANY WARRANTY OR CONDITION AS TO MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF THE EQUIPMENT ARE HEREBY EXCLUDED.

17.5   The Client acknowledges that it uses the Equipment for business purposes and therefore agrees that all consumer protection terms implied by law shall not apply.

17.6   The Client warrants that it has not relied on any representation made by Tait which has not been stated expressly in this Contract or upon any catalogs or publicity material produced by Tait and no statement made or agreed and no liability undertaken orally shall be binding upon Tait unless confirmed by Tait in writing.

17.7   The standard equipment is not designed or intended for use in on-line control of aircraft, air traffic, aircraft navigation or aircraft communications; intrinsically safe environments (unless intrinsically safe equipment is specifically ordered and supplied and used in accordance with the supplied instructions) or in the design, construction, operation or maintenance of any nuclear facility. Tait disclaims any express or implied warranty of fitness for such uses. The Client will not use or resell Products for such purposes.

17.8   The Client acknowledges that any software supplied cannot be tested in every possible permutation and accordingly Tait does not warrant that software supplied will be free of all defects or that its use will be uninterrupted.

17.9   Client agrees that it shall take such reasonable precautions (relative to the importance to Client of the Products), including without limitation backing up software and data at reasonable intervals, implementing back-up systems or redundancy and maintaining suitable numbers of spare units at suitable locations (at a minimum to Tait recommended spares levels). Tait shall have no liability for any losses suffered by Client to the extent that the loss concerned would have been prevented by the taking of such reasonable precautions.

17.10 The provisions of this Clause 17 have been considered by the Parties in the light of the availability of insurance and the relative positions, risks, and responsibilities of the Parties and both Parties agree that they are fair and reasonable

17.11   All provisions of this Limitation of Liability and its subclauses shall survive the expiration or termination of this Agreement.

18.   GOVERNING LAW

This Contract shall be governed and construed in accordance with the laws of the State of Kentucky, USA. Any US or state conflict of law rule that may require reference to the laws of some other country or state shall be disregarded, the result being that Kentucky substantive law will control the issue.

19.   DISPUTES

19.1   Tait and Client will attempt to settle any claim or controversy arising from this Agreement through consultation and negotiation in good faith and a spirit of mutual cooperation. Neither party shall institute a proceeding hereunder unless at least sixty days prior thereto such party shall have furnished to the other written notice by registered mail of its intent to do so. Notice to the Client

Agreement are for convenience only and are not to be used to construe the provisions of this Agreement.

20.7 ASSIGNMENT. This Agreement shall not be assigned by either party without the prior written consent of the other party. That party shall not unreasonably withhold, delay or condition its permission. There shall be no assignment of any Software license given hereunder. In conjunction with any agreed to assignment of this Agreement, Tait agrees to license the assignee pursuant to the terms set forth herein. A new License Fee may be required.

20.8 SUBCONTRACTING. Tait retains the right to subcontract, in whole or in part, any effort required to fulfill its obligations under this Agreement. Additionally, Tait may assign or subcontract any and all rights and obligations hereunder upon notification to the Client to (i) any Tait-affiliated company; (ii) a third party pursuant to any sale or transfer of all or part of Tait's assets or business; or (iii) a third party pursuant to or in connection with any financing, merger, consolidation, change in control, reorganization or other combination involving Tait.

20.9 ENTIRE AGREEMENT. This Agreement (and any Schedules, attachments, addenda, and supplements thereto), shall be the complete and exclusive statement of the agreement between the parties as to the subject matter of the Agreement, and shall be binding upon each of the parties hereto, their respective successors and, to the extent permitted, their assigns. Neither this Agreement nor any Schedules can be amended or otherwise modified, except as agreed to in a written instrument signed by the duly authorized representatives of both parties hereto.

21. ORDER OF PRECEDENCE

In the event there should be any conflict or ambiguity created between the provision of this Agreement, any Purchase Order, invoice, statement, whether written or oral, between Client and Tait, or subsequent agreements between the Parties dealing with the subject matter of this Agreement, the provisions of this Agreement shall control unless modified by a written instrument executed by each of the parties hereto.

22. SURVIVAL AND SEVERABILITY

22.1 All provisions of this Agreement which by their nature should apply beyond its term will remain in force after any termination or expiration of this Agreement including, but not limited to, those addressing the following subjects: Limitation of Liability, Intrinsically Safe Product, Confidentiality, Relationship of The Parties, Governing Law, Dispute Resolution, Survival, Defined Terms and Payment and extend to all media in which data and information may be stored or displayed.

22.2 In the event that any provision of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, the remainder of the provisions of this Agreement will remain in full force and effect.

23. INTELLECTUAL PROPERTY WARRANTY

23.1 Because of the complexity of manufacturing techniques for electronic components and of the intellectual property rights pertaining thereto including software, Tait is unable to declare that the Equipment does not infringe the intellectual property rights of third parties. Tait will defend, at its own expense, any suit brought against the Client to the extent that it is based on a claim that the Equipment or Tait Software infringe a United States patent or copyright, and Tait will pay those costs and damages finally awarded against the Client in any such suit which are attributable to any such claim. If unfavorable judgment is rendered against Tait, Tait shall at its option take out a license from the said third party or shall modify the Equipment in such a way as to avoid infringement or replace the components or software with components or software of equivalent quality, functionality and performance. If such solution shall be impractical for economic and/or technical reasons Tait shall accept the return of the Equipment and refund the Client the Client's net book value for the Equipment deemed to infringe.

Exceptions: • Accessories and batteries (12 months) • TP3 Radios (12 months) • TP2 Radios (12 months)	
Any accessories or batteries.	One year
TP3300 and TP3350 Radios*	One year
TP2210 Radios*	One year

*With Option to purchase one year of Tait Assurance (upon extra charge) for a total of two years of warranty coverage.

24.7 Tait will, at its option, repair or replace any equipment or software covered by this warranty, which becomes defective, malfunctions or otherwise fails to conform with this warranty under normal use and services during the term of this warranty, at no charge for parts or labour.

24.8 In order to obtain warranty service, the equipment, together with the original or a machine reproduction of the bill of sale or other dated, proof-of-purchase document describing the equipment, must be delivered to Tait in the Continental United States or Canada at the owner's expense. Any evidence of alteration, erasing or forgery of proof-of-purchase documents will be cause to void the warranty.

24.9 This warranty does not cover defects, malfunctions or failures resulting from shipping or transit accidents, abuse, misuse, operation contrary to furnished instructions, operation to incorrect power supplies, operation with faulty associated equipment, modification, alteration, improper servicing, tampering and normal wear and tear. Equipment on which the serial number has been defaced or removed shall not be eligible for warranty service. Should any equipment or software submitted for warranty service be found ineligible therefor, an estimate of repair cost will be furnished, and the repair will be accomplished if requested by the owner upon receipt of payment or acceptable arrangements for payment. Software operation is warranted only with the operating system for which it was designed and only on Tait brand software. At Client's cost, and if applicable, Warrantor will use commercially reasonable efforts to enforce any software warranty provided by any third-party software copyright owner. Warrantor does not warrant that the functions contained in the software will meet Client's requirements or that the operation of the software will be uninterrupted or error free.

24.10 This is the only warranty applicable to Tait brand equipment products or software; Tait neither assumes nor authorizes anyone to assume for it any other warranty. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OF NON-INFRINGEMENT AND OF ANY OTHER OBLIGATIONS OR LIABILITY ON THE PART OF WARRANTOR. WARRANTOR'S LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING WARRANTOR'S NEGLIGENCE, ALLEGED DAMAGED OR DEFECTIVE GOODS, WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE EQUIPMENT. IN NO EVENT SHALL WARRANTOR BE LIABLE FOR LOSS OF USE, COMMERCIAL LOSS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER.

24.11 Warranties given in this Clause 24 are unique to and may not be assigned or transferred in whole or in part by, Client.

Equipment	means the equipment specified in the Quote. Equipment includes infrastructure and user equipment (mobile, portables).
First Line Support	The first level of support group involved in the resolution of Incidents. Client First Line Support obligations are described in Clause 4.1 of this Agreement.
Force Majeure	means any event or circumstance which is beyond the reasonable control of a Party and which results in or causes the failure of that Party to perform any of its obligations under this Agreement, including but not limited to: (a) declared or undeclared war, threat of war, terrorist act, blockage, revolution, riots, insurrection, armed conflict, civil disturbance, epidemic, pandemic or disease, sabotage, act of vandalism, hostilities or other commotions, public emergencies, embargoes, strike, lock-out or other industrial disturbance, Act of God, lightning, earthquake, storm, flood, natural disasters, fire, explosion, accident, act of public enemy, industrial dispute, failure of third party suppliers to deliver parts and components, disruptions in the supply and/or distribution chain, or any other cause beyond Tait's reasonable control; (b) Any regulation, rule, restraint, or act, intervention or request of any Government, Governmental agency, Parliament, legislation, provided however that lack of funds will be deemed not to be a matter beyond the reasonable control of the Party concerned.
Hardware	Means any equipment, wiring, and other physical components of a computer or other electronic system.
Incident	An incident is any event which is not part of the standard operation of the System and which causes, or may cause, an interruption or a reduction of the quality of the service provided by the System.
Online Client Service Portal	A web-based application for the Client to interact and receive information from Tait.
Order	Means a purchase order: (i) issued by the Client to Tait for Purchase of Products; (ii) the terms and conditions of which will be the terms of this agreement (unless otherwise agreed in writing between the Parties); and (iii) which will form a binding and enforceable contract between the Client and Tait, once the order is accepted by Tait in accordance with this Agreement.
Partner Product or Third-Party Product	Product sourced by Tait from a third party and sold by Tait as part of the Solution

(i) it is received within 30 days of the date of the Quote; and

(ii) it contains no alteration of any term or condition stated in the Quote.

Oral or written statements made by either party which conflict with or add terms or conditions to a Purchase Order shall not constitute a part of a Purchase Order unless confirmed in writing by both Client and Tait. Any new terms or alterations will require Tait to issue a new Quote in accordance with the process outlined herein.

Release	A new version of previously released standard software made available for use by Clients
Response Time	Commences when Client reports an Incident to the Service Desk and ends when a suitably qualified Tait Client Support Engineer contacts Client.
Restoration or Resolution	Means providing a fix, Workaround or replacement Product which re-stabilizes the System or Product (as applicable) and allows normal traffic levels or functionality to resume.
Restoration Time	Commences when Client reports an Incident to the Service Desk and ends when the Product or System is re-stabilized and carrying normal traffic levels which may be via a workaround or replacement Product(s) as applicable.
Second and Third Line Support	The Support Services provided by Tait (or its subcontractors) following the notification of an Incident or Problem by Client in accordance with its First Line Support obligations.
Service Desk	The single point of contact service desk between the Tait and the Client.
Service Request	A request from a Client for information or advice, or for a Standard change to the scope of the Support Services.
Site	Means the sites set out in Section A of Attachment 1- LFUCG TN9400 System Migration Plan of this Agreement.
Software	Means any computer program, firmware or other software included in a Product, which includes Tait and any Non-Tait Software that may be furnished with the Communications System. "Tait Software" means software whose copyright is owned by Tait. "Non-Tait Software" means software whose copyright is owned by a party other than Tait.

This Software License Agreement ("Agreement") is between you ("Licensee") and Tait International Limited ("Tait").

By using any of the Software items embedded and pre-loaded in the related Tait Designated Product, included on CD, downloaded from the Tait website, or provided in any other form, you agree to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, do not install or use any of the Software. If you install or use any of the Software, that will be deemed to be acceptance of the terms of this Agreement.

For good and valuable consideration, the parties agree as follows:

Section 1 **DEFINITIONS**

"Confidential Information" means all or any information supplied to or received by Licensee from Tait, whether before or after installation or use and whether directly or indirectly pertaining to the Software and Documentation supplied by Tait, including without limitation all information relating to the Designated Products, hardware, software; copyright, design registrations, trademarks; operations, processes, and related business affairs of Tait; and including any other goods or property supplied by Tait to Licensee pursuant to the terms of this Agreement.

"Designated Products" means products provided by Tait to Licensee with which or for which the Software and Documentation is licensed for use.

"Documentation" means product and software documentation that specifies technical and performance features and capabilities; user, operation, and training manuals for the Software; and all physical or electronic media upon which such information is provided.

"Executable Code" means Software in a form that can be run in a compluter and typically refers to machine language, which is comprised of native instructions the computer carries out in hardware. Executable code may also refer to programs written in interpreted languages that require additional software to actually execute.

"Intellectual Property Rights" and "Intellectual Property" mean the following or their substantial equivalents or counterparts, recognized by or through action before any governmental authority in any jurisdiction throughout the world and including, but not limited to all rights in patents, patent applications, inventions, copyrights, trademarks, trade secrets, trade names, and other proprietary rights in or relating to the Software and Documentation; including any adaptations, corrections, de-compilations, disassembles, emulations, enhancements fixes, modifications, translations and updates to or derivative works from, the Software or Documentation, whether made by Tait or another party, or any improvements that result from Tait processes or, provision of information services.

"Licensee" means any individual or entity that has accepted the terms of this License.

"Open Source Software" means software with freely obtainable source code and license for modification, or permission for free distribution.

"Open Source Software License" means the terms or conditions under which the Open Source Software is licensed.

"Person" means any individual, partnership, corporation, association, joint stock company, trust, joint venture, limited liability company, governmental authority, sole proprietorship, or other form of legal entity recognized by a governmental authority.

"Security Vulnerability" means any flaw or weakness in system security procedures, design, implementation, or internal controls that if exercised (accidentally triggered or intentionally exploited) could result in a security breach such that data is compromised, manipulated, or stolen, or a system is damaged.

4.2. Licensee will not, and will not directly or indirectly allow or enable any third party to: (i) reverse engineer, disassemble, extract components, decompile, reprogram, or otherwise reduce the Software or any portion thereof to a human perceptible form or otherwise attempt to recreate the source code; (ii) modify, adapt, create derivative works of, or merge the Software; (iii) copy, reproduce, distribute, lend, or lease the Software or Documentation to any third party; (iv) grant any sublicense or other rights in the Software or Documentation to any third party; (v) take any action that would cause the Software or Documentation to be placed in the public domain; (vi) remove, or in any way alter or obscure any copyright notice or other notice of Tait or third-party licensor's proprietary rights; (vii) provide, copy, transmit, disclose, divulge or make the Software or Documentation available to, or permit the use of the Software by, any third party or on any machine except as expressly authorized by this Agreement; or (viii) use, or permit the use of, the Software in a manner that would result in the production of a copy of the Software by any means whatsoever other than what is permitted in this Agreement. Licensee may make one copy of the Software to be used solely for archival, back-up, or disaster recovery purposes; provided that Licensee may not operate that copy of the Software at the same time as the original Software is being operated. Licensee may make as many copies of the Documentation as it may reasonably require for the internal use of the Software.

4.3. Unless otherwise authorized by Tait in writing, Licensee will not, and will not enable or allow any third party to: (i) install a copy of the Software on more than one unit of a Designated Product; or (ii) copy or transfer Software installed on one unit of a Designated Product to any other device. Licensee may temporarily transfer Software installed on a Designated Product to another device if the Designated Product is inoperable or malfunctioning. Temporary transfer of the Software to another device must be discontinued when the original Designated Product is returned to operation and the Software must be removed from the other device.

4.4. Licensee will maintain, during the term of this Agreement and for a period of two years thereafter, accurate records relating to this license grant to verify compliance with this Agreement. Tait, or a third party nominated by Tait, may inspect Licensee's premises, books and records, upon reasonable prior notice to Licensee, during Licensee's normal business hours and subject to Licensee's facility and security regulations. Tait is responsible for the payment of all expenses and costs of the inspection, provided that Licensee shall indemnify Tait for all costs (including audit costs and legal costs on a solicitor client basis) if Licensee has breached the terms of this Agreement. Any information obtained by Tait during the course of the inspection will be kept in strict confidence by Tait and used solely for the purpose of verifying Licensee's compliance with the terms of this Agreement.

Section 5   **OWNERSHIP AND TITLE**

Tait, its licensors, and its suppliers retain all of their Intellectual Property Rights in and to the Software and Documentation, in any form. No rights are granted to Licensee under this Agreement by implication, estoppel or otherwise, except for those rights which are expressly granted to Licensee in this Agreement. All Intellectual Property developed, originated, or prepared by Tait in connection with providing the Software, Designated Products, Documentation, or related services, remains vested exclusively in Tait, and Licensee will not have any shared development or other Intellectual Property Rights.

Section 6   **LIMITED WARRANTY; DISCLAIMER OF WARRANTY**

6.1. The commencement date and the term of the Software warranty will be a period of one (1) year from Tait shipment of the Software. If Licensee is not in breach of any obligations under this Agreement, Tait warrants that the unmodified Software, when used properly and in accordance with the Documentation and this Agreement, will be free from a reproducible defect that eliminates the functionality or successful operation of a feature critical to the primary functionality or successful operation of the Software. Whether a defect has occurred will be determined solely by Tait. Tait

Section 8   **TERM AND TERMINATION**

8.1   Licensee's right to use the Software and Documentation will commence when the Designated Products are supplied by Tait to Licensee and will continue for the life of the Designated Products with which or for which the Software and Documentation are supplied, unless Licensee breaches this Agreement, in which case this Agreement and Licensee's right to use the Software and Documentation may be terminated immediately upon notice by Tait.

8.2   Within thirty (30) days after termination of this Agreement, Licensee must certify in writing to Tait that all copies of the Software have been removed or deleted from the Designated Products and that all copies of the Software and Documentation have been returned to Tait or destroyed by Licensee and are no longer in use by Licensee.

8.3   Licensee acknowledges that Tait made a considerable investment of resources in the development, marketing, and distribution of the Software and Documentation and that Licensee's breach of this Agreement will result in irreparable harm to Tait for which monetary damages would be inadequate. If Licensee breaches this Agreement, Tait may terminate this Agreement and be entitled to all available remedies at law or in equity including immediate injunctive relief and repossession of all non-embedded Software and associated Documentation. Licensee shall pay all Tait costs (on an indemnity basis) for the enforcement of the terms of this Agreement.

Section 9   **CONFIDENTIALITY**

Licensee acknowledges that the Software and Documentation contain proprietary and Confidential Information valuable to Tait and are Tait trade secrets, and Licensee agrees to respect the confidentiality of the information contained in the Software and Documentation.

Section 10   **LIMITATION OF LIABILITY**

10.1   In no circumstances shall Tait be under any liability to Licensee, or any other person whatsoever, whether in Tort (including negligence), Contract (except as expressly provided in this Agreement), Equity, under any Statute, or otherwise at law for any losses or damages whether general, special, exemplary, punitive, direct, indirect, or consequential arising out of or in connection with any use or inability of using the Software.

10.2   Licensee's sole remedy against Tait will be limited to breach of contract and Tait sole and total liability for any such claim shall be limited at the option of Tait to the repair or replacement of the Software or the refund of the purchase price of the Software.

Section 11   **GENERAL**

11.1.   COPYRIGHT NOTICES. The existence of a copyright notice on the Software will not be construed as an admission or presumption of publication of the Software or public disclosure of any trade secrets associated with the Software.

11.2.   COMPLIANCE WITH LAWS. Licensee acknowledges that the Software may be subject to the laws and regulations of the jurisdiction covering the supply of the Designated Products and will comply with all applicable laws and regulations, including export laws and regulations, of that country.

11.3.   ASSIGNMENTS AND SUBCONTRACTING. Tait may assign its rights or subcontract its obligations under this Agreement, or encumber or sell its rights in any Software, without prior notice to, or consent of, Licensee.

11.4.   GOVERNING LAW. The provision of this Section 26 (TAIT LIMITED SOFTWARE LICENSE) shall be subject to and construed in accordance with New Zealand law and disputes between the parties concerning the provisions hereof shall be determined in accordance with Section 19 (Disputes) of this Agreement. Provided however Tait may at its election bring proceedings for breach of the terms hereof or for the enforcement of any judgment in relation to a breach of the terms hereof in any jurisdiction Tait considers fit for the purpose of ensuring compliance with the terms hereof or obtaining relief for breach of the terms hereof.

SECTION C: BILL OF MATERIALS

Quotation

BILL OF MATERIALS
PRICING PROVIDED SEPERATELY

tait communications

For the attention of:	
Client	LFUCG - TN9400 Migration
Quote Number	111360_20230309
Total Price	
Currency	USD
Date	Thursday, March 9, 2023
Project Name	Lexington-Fayette, KY Airbus Managed Service Contract
Project Description	Airbus (Vesta) migration to TN9400 P25 Trunking Radio System
	P25 Phase 1, 800MHz
	1 Simulcast Cell, 5-sites, 10-channels
	1 Multicast Cell, 1-site, 4-channels -> 4

Incoterm: CIP TAM
Validity: 30 Calendar Days

Prepared by: Mark Reeves

Section	Build With	Rack With	Part Number	Description	SA	Qty	Unit List	Discount	Unit Sell	Ext'd Sell	Section Total
100			RFSS Servers and Site Controllers for Simulcast Cell #1			1					
100.01			TN9400-1001-0000-0000-10	P25 RFSS & Site Cntrlr Hi Level AC	Y	2					
100.02			TNASS24	License Trunk P25 RFSS/SC - Express6 RFSS Site Cntrlr & HA	Y	1					
100.03			TNASS02	License P25 Trkd RFSS - Enable IP & OTAP	Y	1					
100.04			TNASS05	License P25 Trkd RFSS - CSSI Console System	Y	1					
100.05			TNASS06	License P25 Trkd RFSS - Voice Recorder	Y	2					
100.06			TNASS08	License P25 Trkd RFSS - ISSI Inter System	Y	1					
100.07			TNASS09	License P25 Trkd RFSS - Analog Gateway	Y	20					
100.08			TNASS16	License P25 Trkd System Transceiver	Y	54					
101			BGA Multicast Site Controller			1					
101.01			TN9400-3001-0000-0000-10	P25 SC - Controller High Level 110-230VAC	Y	1					
101.02			TNASS25	License Trunk P25 SC - Express6 Site Cntrlr & HA	Y	1					
110			Tait Enable			1					
			EnableMonitor								
110.01			TE1000-0201-0001-ABA6-10	E-Monitor Srvr AC Ess 250 net devices 1yr main	Y	1					
			EnableInsight								
110.02			TE1004-2110-1010-2102-10	EnableInsight Small N/W (<=24 Channels)	Y	1					
900			Services for LEX Migration to TN9400			1					
900.01			SVF-PMN	Services - Project Management		1					
900.02			SVF-SYS	Services - System Design		1					
900.03			SVF-COM	Services - Commissioning		1					
900.04			SVF-SAT	Services - Site/Syst Acceptance Testing		1					
900.05			L-T&L	Travel and Lodging		1					
920			Training			1					
920.01			SVF-TDL	Services - Training Delivery		10					
940			Tait Advantage			1					
			Tait Advantage								
940.01			SRVADV-INW-TAM-1	Tait Advantage TAM Yr#1 Infra No Warrant		1					
940.02			SRVADV-INW-TAM-2	Tait Advantage TAM Yr#2 Infra No Warrant		1					
940.03			SRVADV-INW-TAM-3	Tait Advantage TAM Yr#3 Infra No Warrant		1					
940.04			SRVADV-INW-TAM-4	Tait Advantage TAM Yr#4 Infra No Warrant		1					
940.05			SRVADV-INW-TAM-5	Tait Advantage TAM Yr#5 Infra No Warrant		1					
940.06			SRVADV-INW-TAM-6	Tait Advantage TAM Yr#6 Infra No Warrant		1					
940.07			SRVADV-INW-TAM-7	Tait Advantage TAM Yr#7 Infra No Warrant		1					
940.08			SRVADV-INW-TAM-8	Tait Advantage TAM Yr#8 Infra No Warrant		1					
940.09			SRVADV-INW-TAM-9	Tait Advantage TAM Yr#9 Infra No Warrant		1					
940.1			SRVADV-INW-TAM-10	Tait Advantage TAM Yr#10 Infra No Warrant		1					
			Extended Hardware Maintenance								
940.11			EPW-INF-TAM-1	Extended Warranty TAM Infrastructure - Yr#1		1					
940.12			EPW-INF-TAM-2	Extended Warranty TAM Infrastructure Yr#2		1					
940.13			EPW-INF-TAM-3	Extended Warranty TAM Infrastructure Yr#3		1					
940.14			EPW-INF-TAM-4	Extended Warranty TAM Infrastructure Yr#4		1					
940.15			EPW-INF-TAM-5	Extended Warranty TAM Infrastructure Yr#5		1					
940.16			EPW-INF-TAM-6	Extended Warranty TAM Infrastructure Yr#6		1					
940.17			EPW-INF-TAM-7	Extended Warranty TAM Infrastructure Yr#7		1					
940.18			EPW-INF-TAM-8	Extended Warranty TAM Infrastructure Yr#8		1					
940.19			EPW-INF-TAM-9	Extended Warranty TAM Infrastructure Yr#9		1					
940.2			EPW-INF-TAM-10	Extended Warranty TAM Infrastructure Yr#10		1					
			HW refresh at year 5								
940.21			TN9400-1001-0000-0000-10	P25 RFSS & Site Cntrlr Hi Level AC	Y	2					
940.22			TN9400-3001-0000-0000-10	P25 SC - Controller High Level 110-230VAC	Y	2					
940.23			005-00228-00	SERVER Dell PowerEdge R250 (EnableMonitor)	Y	1					
940.24			005-00230-00	SERVER Dell PowerEdge R250 (EnableInsight)	Y	1					
940.25			005-00232-00	SERVER Dell R450 AC MS SQL 2019 Std 5 user CAL (EnableInsight)	Y	1					
			SA - EnableMonitor								
940.26			TEMMC101	Tait EnableMonitor <250 dev Soft Maint		10					
			*required Software maintenance after first year								
			SA - EnableInsight								
940.27			TEIS101	EnableInsight Sml N/W S&M Yearly		10					

4/25/2023

AGREED BY: Tait North America, Inc.

By: _____

Name: __Kevin W. Sumrell__

Title: __President, Tait Americas__

Date: __31May2023__

AGREED BY: LFUCG

By: __Linda Gorton__

Name: __Linda Gorton__

Title: __Mayor__

Date: __6/30/2023__

By: _____

Name: _____

Title: _____

Date: _____

By: _____

Name: _____

Title: _____

Date: _____

ATTESTED BY:

By: __Mackenzie Stock__

Name: __Mackenzie Stock__

Title: __Deputy Council Clerk__

Date: __6/30/2023__

System Migration Procedure

TN9400 P25 Trunking Radio System

Lexington-Fayette Urban County Government, Kentucky (LFUCG)

Issue v.1.0 • 12 March 2023

CONTENTS

1. MIGRATION OVERVIEW

1.1 Preparation

The preparation stage involves work that can be carried out before the migration begins, this involves tasks that are not system impacting and can be accomplished remotely.

1.2 Testing Migration

The TN9400 system configuration will be modified to prevent Users from attempting to register on the new core and a small number of channels will be removed from the live system and integrated into the new TN9400 core. This allows for functional testing.

1.3 Full Core Network / User Migration

Following completion of the testing phase, Live Traffic will be migrated to the TN9400 core on a per-group basis, the order of groups will be coordinated with LFUCG to allow for low-risk Users to transition first to allow for further testing and verification prior to high-risk Users migrating between the systems.

The LFUCG System is <u>believed</u> to be configured as below:

- Single RFSS with redundant servers
- Management / Control Sites
  - WLEX
    - Simulcast Site Controller
    - RFSS System Controller
    - Collocated File & IMG Server
    - WLEX VPGate Console Controller
    - NTP Server
    - Ceragon NetMaster
  - LFUCG PD HQ
    - Simulcast Site Controller
    - RFSS System Controller
    - Two (2) VPGate Console Controllers
      - PD VPGate 1
      - PD VPGate 2
    - IMG Server
    - Alarm Management Server
    - APM Server
    - LFUCG PD Dispatch Center consisting of Avtec Scout Dispatch Consoles
    - VPN Firewall
  - PSOC
    - PSOC Dispatch Center consisting of Avtec Scout Dispatch Consoles
  - BGA [Blue Grass Airport]
    - Multicast Site Controller
    - BGA VPGate Console Controller that is collocated/hosted on the single (1) Avtec Scout Dispatch Console
- Five (5) Simulcast Radio Sites
  - WLEX [Central Voter Site]
  - WKYT [Backup Central Voter Site]
  - WDKY
  - WVRB
  - PSOC
- One (1) Multicast Radio Site
  - BGA [Blue Grass Airport]
- Three (3) Transportable Dispatch Consoles
  - Two (2) at Police Technical Services Unit [TSU]
  - One (1) at LFUCG Fire Dispatch

The LFUCG VESTA P25 System has seven (7) Kontron CG2300's distributed as shown below in Figure 2:

The Tait P25 Phase 1 Trunked Radio System Controllers are also based on the Kontron CG2x00 Server, however, the structure and design of the Tait Solution requires only four (4) Kontron CG2x00 Servers. A key feature of the Tait software structure is that a Single Kontron CG2x00 can work as both the RFSS and the Simulcast Cell #1 Site Controller. It can also be deployed in a HA [High Available] Geo-Redundant Configuration to eliminate a potential Single Point of Failure.

For the BGA Multicast Cell, Tait is proposing two (2) Multicast Cell #1 Site Controllers in a Local Redundant Configuration.

Figure #3 below shows the Distribution and Location of the four (4) Tait Kontron CG2x00 Servers. Once the existing VESTA System is fully decommissioned, LFUCG can use the Surplus VESTA Controllers as Spares for the Tait System subject to a review of the VESTA Configuration and Provisioning to ensure that they are comparable to the Tait Controllers.

2.2   TN9400 P25 System Parameters

The TN9400 core and associated TB91/TB9400 repeaters will initially be configured with a different NAC (Network Access Code) to restrict access during the migration test phase in order to prevent active traffic from utilizing the system. Only subscriber radios with the required programming will be allowed to register on the new core during the migration/test phase. During the migration of Users onto the new core, the Site IDs will remain in the "Migration" configuration to allow the systems to continue to run in parallel, once the migration of Users is complete, a configuration update will be made to return the Site ID's to the "LFUCG" configuration to align with the existing configuration of the Subscriber Equipment.

Parameter	Migration (Test) Configuration	LFUCG (Final) Configuration
WACN	0x92763	599732 decimal 926B4 hex
SYSTEM ALIAS		LEX
SYSTEM ID	0xD66	1054 decimal 41E hex
RFSS ALIAS		LEX RFSS
RFSS ID	0x02	1 decimal 1 hex
NAC	0x001	Currently Unknown

2.3   TB91/TB9400 Repeaters

The TB91/TB9400 repeaters will require a firmware upgrade when they are migrated if they are not currently at a supported version. Version 4.00 or 4.09 (or later) is required to interface to the TN9400 core network.

2.4   Subscriber Radio Configuration

Any radio participating in the migration/test phase requires the following programming:

TP9100/TM9100

Channel Profiles > P25 Trunking form > Advanced tab (P25 Trunking) > Alternate NAC – 0x001

TP9400/TM9400

Channel Profiles > P25 Trunking form > Advanced tab (P25 Trunking) > Restrict NAC by System Identity – Cleared

Examples of 3rd party radios should be included in the functional testing to verify those radios will continue to operate correctly on the new TN9400 core.

2.5   Tait Enable Suite

3.1.2   Equipment Issues

☐ Capture any issues discovered in 3.1.1 System Audit and note the impact/risk.

Item	Description	Impact/Risk	Resolution

3.1.3   TB91/TB9400 Firmware Pre-Deployment

It is Tait's understanding that the current system is comprised of a mix of TB9100 and TB9400 repeaters.

The task of uploading firmware to the TB9100 base stations is service impacting, the repeaters must be taken out of service during the upload and activation process. If required, the upgrade can be completed before the system migration assuming that the current VESTA core network supports the new version of TB9100 firmware. If not, the firmware upgrade will be completed as each RF resource is moved between the core networks.

Using the CSS / Web UI, compete for the firmware upgrade on each TB9100 in the system.

The task of uploading firmware to the TB9400 base stations is not service impacting, this can be completed ahead of the scheduled maintenance window. Upload and Activation are separate processes on the TB9400, the new firmware version will not be applied until activated.

Using the WebUI upload all required upgrade files to each TB9400 in the system. At this time the target firmware version is 3.20.

LFUCG Simulcast Cell #1

	TB91/TB9400 CH1	TB91/TB9400 CH2	TB91/TB9400 CH3	TB91/TB9400 CH4	TB91/TB9400 CH5	TB91/TB9400 CH6
WLEX Master	OK ☐	OK ☐	OK ☐	OK ☒	OK ☐	OK ☐

3.2   Testing Migration

3.2.1   TN9400 Core Network Server Deployment

This procedure details the required steps to enable the TN9400 controllers. Configuration changes will be made on the servers to allow for controlled testing ahead of the migration of any live system traffic. Using the existing system information, Tait will populate the system and fleet configuration for the new TN9400 core network and create a backup file for the final configuration, and a backup file for the testing configuration. The testing configuration will have the alternate RFSS and Site IDs, alternate NAC code, and all groups will initially be disabled in the Fleet Manager.

System Impact: None.

Risk Mitigation: Configuration changes will be made to the TN9400 controllers to prevent any interference with the operational system.

#	Description	Status
1.	Connect all TN9400 controllers to a temporary switch and power on.	OK ☐
2.	Login to each Site Controller application and place the applications offline	OK ☐
3.	Login to the RFSS Manager and Fleet Manager.	OK ☐
4.	Complete a current backup of each application.	OK ☐
5.	Upload the LFUCG_RFSS_Testing_Backup and LFUCG_Fleet_Manager_Testing_Backup files to each application and restore. These backup files will apply the configuration changes listed in 2.1 and reduce the number of channels to 3 per cluster for testing purposes. For the BGA Multicast Site, discussions need to be held with LFUCG to determine the appropriate number of channels necessary for migration. At least two (2) channels are needed for Migration Testing.	OK ☐
6.	Apply the configuration from the RFSS Manager.	OK ☐
7.	Verify the configuration was successfully applied.	OK ☐
8.	Remove the TN9400 controllers from the temporary switch and connect to the appropriate ports on the regular LFUCG IP network	OK ☐
9.	Verify the controllers are accessible and there is no impact on the operating system	OK ☐

	• Configure > Alarms > SNMP > Community name = tait_p25 [NOTE this can be left at the Existing Configuration to take advantage of the Legacy SolarWinds System] • Configure > Alarms > SNMP > Trap Recipients > IP Address > x.x.x.x [NOTE this can be left at the Existing Configuration to take advantage of the Legacy SolarWinds System]	
9.	Place the Master/Voter TB91/TB9400 of each channel group online and verify it remains idle. The existing Site Controller should not be able to establish a control connection.	OK ☐
10	Place the remaining test channels online, verify the channel groups' form, and the central voter reports all members are present and that they remain in the idle state.	OK ☐
11	Login to the A and B Site Controller applications for each cluster and place the applications online.	OK ☐
12	Verify the test control channel and traffic channel are assigned the correct roles and the control channel begins transmitting.	OK ☐
13	Request the LFUCG PSOC complete test calls to active Users in several locations in the county to verify there is no impact to live system operation (None is expected). If any impact is observed, immediately place all test TB91/TB9400's offline. Then review the information. For convenience, and to minimize operational impacts, LFUCG may want to use the Backup Dispatch Center at LFUCG PD HQ to participate in the Migration.	OK ☐
14	Program each test portable using the instructions in 2.3 and verify each can register on the TN9400 core and can successfully make test calls.	OK ☐

	several locations in the county to verify there is no impact to live system operation' verifies System Operation.	
9.	Enable the test talkgroups one by one on the TN9400 and verify connectivity to the Console Sub-System. Using the TN9400 Fleet Manager, verify the Console Sub-System is affiliated with the configured test groups. For each talkgroup verify that the console system can communicate with both the live VESTA system and the TN9400 system	OK ☐

Note: Tait will coordinate with Avtec during the project design phase to document all steps required for the Avtec Scout Console Subsystem platform migration.

3.2.4   Voice Recorder Interfaces

If possible, all Voice Recorder Sub-Systems will be connected to the TN9400 core network prior to the system migration for testing purposes. If not possible due to operational requirements or licensing, an alternate method for testing and migration will need to be developed.

System Impact: None

Risk Mitigation:

- Before deploying voice recorder changes Tait will verify with LFUCG that there is no critical traffic on the system.

#	Description	Status
1.	Check with LFUCG on the decision to proceed.	OK ☐
2.	Using Remote Desktop connect to each logging recorder and configure the relevant interfaces required to connect to the TN9400 core network.	OK ☐
3.	Request the LFUCG PSOC complete several test calls and verify there is no impact on a voice recording from the current core network. If any issues are found, revert to the previous configuration.	OK ☐
4.	For each test talkgroup on the TN9400 core, place a complete test call and verify the call is present on the Voice Recorder Sub-Systems	OK ☐

Note: Tait will coordinate with Freedom Loggers during the project design phase to document all steps required for the Freedom Loggers platform migration.

#		Status
7.	Verify that the controllers are accessible and there is no impact on the operational system	OK ☐

3.3.2 Test Channel Migration

This process will re-configure the channels used for testing to their final configuration

System Impact: Reduction of talk path capacity on a live system.

Risk Mitigation:

- The channels will be left on standby until the cutover process begins.

#	Description	Status
1.	Using the CSS / Web UI connect to all of the test TB91/TB9400's.	OK ☐
2.	Modify the configuration parameters: • Configure > RF Interface > Signalling Profiles > Signalling Profile X > NAC = XXXX • Configure > Network Interfaces > Failsoft = Enable (if applicable).	OK ☐

3.3.3 Console Interfaces Preparation

All Console Sub-Systems will be connected to the TN9400 core in the live configuration. No changes should be required from the configuration used for testing. Additional console positions may need to be configured with the new console screen.

System Impact: Additional console positions will require restart or logoff/logon to apply screen changes

Risk Mitigation:

- Before deploying console changes, Tait will verify with LFUCG that there is no critical traffic on the system.
- The console screens will be built before beginning this process based on input from LFUCG.

3.3.4 Voice Recorder Interfaces Preparation

All Voice Recorder Sub-Systems will be connected to the TN9400 core in the live configuration, no changes should be required from the configuration used for testing.

System Impact: None

TB91/TB9400's in the channel group to enable this process to occur quickly. The TB91/TB9400's can remain on their upgraded firmware version for a short period if supported by the current VESTA core network but should be downgraded in the event of a long-term rollback.

#	Description	Status
1.	Check with LFUCG on the decision to proceed.	OK ☐
2.	Browse to the TTM on the existing core and login as the tactical login	OK ☐
3.	Browse to the RFSS and Fleet Managers on the TN9400 core	OK ☐
4.	Create a test talkgroup on the TN9400 and program at least 2 test radios with the group	OK ☐
5.	Place the A and B Site Controller Applications Online for both clusters	OK ☐
6.	Place the channel group online and verify the TN9400 establishes a control connection to all members.	OK ☐
7.	Use the configured test portables to verify that all channels can carry voice traffic.	OK ☐
8.	Check with LFUCG on the decision to proceed.	OK ☐
9.	For the first identified talkgroup to migrate view the current registrations using the existing TTM. Note all of the current Users registered to the group.	OK ☐
10.	Announce over the radio system that there will be a short outage for radio maintenance.	OK ☐
11.	Unblock the group on the TN9400 Fleet Manager	OK ☐
12.	Block the group on the existing TTM	OK ☐
13.	After a few seconds, verify all Users have registered on the TN9400 core.	OK ☐
14.	Using a dispatch console complete a radio check to each of the active Users on the talkgroup	OK ☐
15.	Monitor the system for any issues for some time before proceeding with the next stage of migration.	OK ☐
16.	Place the Master/Voter TB91/TB9400 for the next channel group(s) in each cell to migrate into standby mode first, then the remaining TB91/TB9400's at the remote sites.	OK ☐
17.	Activate the new firmware version on the channel group	OK ☐
18.	Verify the activation was successful.	OK ☐
19.	Modify the configuration parameters:	OK ☐

32.	For the second set of primary talkgroups view the current registrations using the existing TTM. Note all of the current Users registered to the group.	OK ☐
33.	Announce over the radio system that there will be a short outage for radio maintenance.	OK ☐
34.	Unblock the group on the TN9400 Fleet Manager	OK ☐
35.	Block the group on the existing TTM	OK ☐
36.	After a few seconds, verify all Users have registered on the TN9400 core.	OK ☐
37.	Using the dispatch console complete a radio check to each of the active Users on the talkgroup	OK ☐
38.	Place the Master/Voter TB91/TB9400 for the next channel group(s) in each cell to migrate into standby mode first, then the remaining TB91/TB9400's at the remote sites.	OK ☐
39.	Activate the new firmware version on the channel group	OK ☐
40.	Verify the activation was successful.	OK ☐
41.	Modify the configuration parameters: • Configure > Interfaces > Trunking > Listen Port = 50001	OK ☐
42.	Place the channel group in run mode and verify the TN9400 establishes a control connection to all members.	OK ☐
43.	Use the configured test portables to verify that all channels can carry voice traffic.	OK ☐
44.	Apply the update, **5-10 second outage, pushing an update on the TN9400 system will cause both the Site Controller process and RFSS process to reset.**	OK ☐
45.	Power down the legacy VESTA core network controllers.	OK ☐

3.3.8 Post Upgrade Daily Checklist

RFSS-1A	Administration Uptime	Application Uptime	Alarms	Call Records	RAM%	CPU%	Disk Usage
Day 1			OK ☐	OK ☐			
Day 2			OK ☐	OK ☐			
Day 3			OK ☐	OK ☐			
Day 4			OK ☐	OK ☐			
Day 5			OK ☐	OK ☐			
Day 6			OK ☐	OK ☐			
Day 7			OK ☐	OK ☐			
RFSS-1B	Administration Uptime	Application Uptime	Alarms	Call Records	RAM%	CPU%	Disk Usage
Day 1			OK ☐	OK ☐			
Day 2			OK ☐	OK ☐			
Day 3			OK ☐	OK ☐			
Day 4			OK ☐	OK ☐			
Day 5			OK ☐	OK ☐			
Day 6			OK ☐	OK ☐			
Day 7			OK ☐	OK ☐			

Multicast Cell #1 - A	Administration Uptime	Application Uptime	Alarms	Call Records	RAM%	CPU%	Disk Usage
Day 1			OK ☐	OK ☐			
Day 2			OK ☐	OK ☐			
Day 3			OK ☐	OK ☐			
Day 4			OK ☐	OK ☐			
Day 5			OK ☐	OK ☐			
Day 6			OK ☐	OK ☐			
Day 7			OK ☐	OK ☐			
Multicast Cell #1 - B	Administration Uptime	Application Uptime	Alarms	Call Records	RAM%	CPU%	Disk Usage
Day 1			OK ☐	OK ☐			
Day 2			OK ☐	OK ☐			
Day 3			OK ☐	OK ☐			
Day 4			OK ☐	OK ☐			
Day 5			OK ☐	OK ☐			
Day 6			OK ☐	OK ☐			
Day 7			OK ☐	OK ☐			