A G E N D A

GRANT COUNTY PUBLIC UTILITY DISTRICT
Via Conference Call
+1 509-703-5291 Conference ID: 287 686 505#
COMMISSION MEETING
Tuesday, September 28, 2021

An Executive Session may be called at any time for purposes authorized by the Open Public Meetings Act

9:00 a.m. Commission Convenes
Review and Sign Vouchers

9:30 a.m. Reports from staff

12:00 Noon Lunch with County Commissioners

1:00 p.m. Safety Briefing
Pledge of Allegiance
Attendance
Public requests to discuss agenda items/non-agenda items
Correspondence
Business Meeting

1. Consent Agenda

Approval of Vouchers

Meeting minutes of September 14, 2021

2. Regular Agenda

Motion authorizing the General Manager/CEO, on behalf of Grant PUD, to execute Change Order No. 3 to Contract 430-09972R1 with Olsson Industrial Electric, increasing the not-to-exceed contract amount by $1,643,319.00 for a new contract total of $13,455,101.00 and resetting the delegated authority levels to the authority granted to the General Manager/CEO per Resolution No. 8609 for charges incurred as a result of Change Order No. 3. (3372)

Motion authorizing the General Manager/CEO, on behalf of Grant PUD, to execute Change Order No. 31 to Contract 230-3737 with GE Steam, Inc., increasing the not-to-exceed contract amount by $403,069.00 for a new contract total of $105,639,667.71 and resetting the delegated authority levels to the authority granted to the General Manager/CEO per Resolution No. 8609 for charges incurred as a result of Change Order No. 31. (3373)

3. Review Items For Next Business Meeting

Motion authorizing payment to Insulation Masters, Brandon Lang, for invoice #9320 dated April 19, 2021 in the amount of $17,420.00. (xxxx)

Motion authorizing the General Manager/CEO, on behalf of Grant PUD, to execute Contract 430-10427 with Nokia Networks, “Nokia of America Corporation”, in an amount not-to-exceed $3,779,436.62. (xxxx)

4. **Calendar**

5. **Reports from Staff (if applicable)**

Adjournment

CONSENT AGENDA

Draft – Subject to Commission Review

REGULAR MEETING
OF PUBLIC UTILITY DISTRICT NO. 2 OF GRANT COUNTY

September 14, 2021

The Commission of Public Utility District No. 2 of Grant County, Washington, convened at 9:00 a.m. via Microsoft Teams Meeting / +1 509-703-5291 Conference ID: 287 686 505# with the following Commissioners present: Larry Schaapman, President; Judy Wilson, Vice-President; Nelson Cox, Secretary; and Tom Flint, Commissioner. District No. 2 position will remain vacant until an appointment is made as per RCW 42.12.070 guidelines.

The Commission convened to review vouchers and correspondence.

A round table discussion was held regarding the following topics: Hanford Reach update; system update; COVID response and Incident Criticality Level (ICL) update; recently issued directives by President Biden which may affect Grant PUD COVID response policies; Employee Appreciation Day scheduled for September 16; inquiry related to response and board decision in regard to USBR and Irrigation Districts regarding July 2020 wheeling rate proposal; multiple invoice inquiries from Commissioner Wilson; notice from Commissioner Flint regarding CT can weatherization and need for system repair; appreciation noted for follow-up materials in response to previous Commission requests; inquiry into Nokia Contract RFP process and total number of vendors considered; and request for COVID expense overview.

Ty Ehrman, Managing Director of Power Production, and Chris Steinmetz, Engineer III, presented the Priest Rapids Right Embankment Project Overview.

John Mertlich, Senior Manager of FP&A, and Lisa Stites, Senior Financial Analyst, provided the Strategic Plan Dashboard Review.

Tom Dresser, Manager of Fish & Wildlife, presented the Fish and Wildlife Report.

The Commission recessed at 11:52 p.m.

The Commission resumed at 1:00 p.m.

Consent agenda motion was made Mr. Flint and seconded by Mr. Cox to approve the following consent agenda items:

Payment Number	114229	through	114724	$18,211,542.65
Payroll Direct Deposit	183033	through	184548	$4,159,543.28

Payroll Tax and Garnishments	20210826A	through	20210909B	$1,754,374.03

Special meeting minutes of August 20, 2021.

Meeting minutes of August 24, 2021.

After consideration, the above consent agenda items were approved by unanimous vote of the Commission.

Proclamation No. 2021-01 relative to commission meeting attendance for Commissioners during the Covid-19 pandemic was presented to the Commission. Motion was made by Mrs. Wilson and seconded by Mr. Flint to approve Proclamation No. 2021-01. After consideration, the motion passed by unanimous vote of the Commission.

PROCLAMATION NO. 2021-1

A PROCLAMATION REGARDING COMMISSION MEETING ATTENDANCE FOR COMMISSIONERS DURING THE COVID-19 PANDEMIC

R e c i t a l s

1. Grant PUD continues to monitor criticality levels during the Covid-19 pandemic depending on National, State and Local health guidance, and prioritizes following rigorously the CDC health and safety guidelines that protect and preserve the well-being of employees and the critical and essential infrastructure that we operate;

2. Grant PUD has provided guidance to employees who play a critical role in the Grant PUD's health by way of minimizing personal contact with others in an effort to reduce the risk of employees within Grant PUD of being exposed to the virus; however, there are certain employees who are deemed critical to the continued operations and the risk of exposure to critical employees is an elevated risk to Grant PUD;

3. Grant PUD encourages all employees to maintain safety standards when on their own personal time as to not bring the virus back to Grant PUD or its employees;

4. The Commission meets on a regular basis to conduct the business of Grant PUD and can do so without the need to meet with any staff in person during periods where the criticality levels are elevated;

5. The Commission does not interact with the CEO, CLO or any other employees on a day-to-day basis, which further mitigates the risk of the virus spreading to employees or within Grant PUD facilities or on Grant PUD grounds;

6. The Commission deems it necessary to conduct Commission meetings with Commissioners present in person for adequate facilitation and communication between Commissioners; and

7. The Commission can engage in these meetings while meeting the safety guidelines established by National, State and Local health authorities.

NOW, THEREFORE, BE IT RESOLVED by the Commission of Public Utility District No. 2 of Grant County, Washington as follows:

BE IT FURTHER RESOLVED, until further notice, the Commission shall meet for Commission meetings off site in a public facility and practice the safety guidelines established by National, State and Local health authorities.

BE IT FURTHER RESOLVED, in person Commission meetings attended by Commissioners only will be conducted pursuant to Grant PUD's exemption attached as Exhibit A.

PASSED AND APPROVED by the Commission of Public Utility District No. 2 of Grant County, Washington this 14th day of September, 2021.

Resolution No. 8971 relative to adopting a revised schedule of non-bargaining unit positions and was presented to the Commission. Motion was made by Mr. Flint and seconded by Mr. Cox to approve Resolution No. 8971. After consideration, the motion passed by unanimous vote of the Commission.

RESOLUTION NO. 8971

A RESOLUTION ADOPTING A REVISED SCHEDULE OF NON-BARGAINING UNIT POSITIONS AND SUPERSEDING RESOLUTION NO. 8900

R e c i t a l s

1. Resolution No. 8900 adopted November 27, 2018, revised the schedule of non-union positions and adjusted salary grades and ranges of non-bargaining unit employee positions; and

2. Pursuant to RCW 54.16.100 the Grant PUD's Manager recommends the Commission adopt the scale of salaries to be paid for the different classes of service as set forth in the attached Exhibit A.

NOW, THEREFORE, BE IT RESOLVED by the Commission of Public Utility District No. 2 of Grant County, Washington, as follows:

Section 1. The salary plan as set forth in Exhibit A is hereby approved and adopted.

Section 2. The Manager is authorized to make temporary changes in the salary plan of non-bargaining unit employees under his or her direction, until revision of the salary plan by Grant PUD's Commission, to resolve individual situations such as the addition of new job titles.

Section 3. Employees in non-bargaining unit positions shall be eligible to participate in the Grant PUD's performance pay program as set forth in Exhibit B attached hereto and by this reference herein incorporated. The Commission has established an allocated pool through the annual budgeting process for non-bargaining unit salary administration.

Section 4. Non-bargaining unit employee compensation shall include a service pin on the date of the five-year anniversary. Thereafter, each time an additional five (5) years of full-time service is completed the employee will receive recognition in the form of a gift based on their years of service and includes a pin denoting the years of service.

Section 5. Resolution No. 8900 is hereby superseded, and this resolution supersedes any other resolutions which are inconsistent with this resolution.

Section 6. This resolution shall be effective the first day of the next regular utility pay period following its adoption.

PASSED AND APPROVED by the Commission of Public Utility District No. 2 of Grant County, Washington this 14th day of September, 2021.

Resolution No. 8972 relative to participation in the Washington State public works board broadband program was presented to the Commission. Motion was made by Mrs. Wilson and seconded by Mr. Flint to approve Resolution No. 8972. After consideration, the motion passed by unanimous vote of the Commission.

RESOLUTION NO. 8972

RESOLUTION OF THE COMMISSION OF PUBLIC UTILITY DISTRICT NO. 2 OF GRANT COUNTY, WASHINGTON, AUTHORIZING THE DISTRICT'S PARTICIPATION IN THE WASHINGTON STATE PUBLIC WORKS BOARD BROADBAND PROGRAM, THE EXECUTION OF A BROADBAND CONSTRUCTION FUNDING CONTRACT, AND OTHER MATTERS RELATED THERETO

WHEREAS, Public Utility District No. 2 of Grant County, Washington (the "District"), owns and operates an electric utility system (the "Electric System") for the transmission and distribution of electric energy.

WHEREAS, the District has determined that it is necessary to equip and make certain improvements to the Electric System, including the construction of broadband infrastructure (the "Project").

WHEREAS, the District has issued and currently has outstanding certain obligations payable from and secured by a senior lien on revenue of the Electric System (referred to as the "Outstanding Parity Bonds" and the resolutions authorizing such Outstanding Parity Bonds are referred to as the "Outstanding Parity Bond Resolutions") and may issue from time to time bonds or obligations payable on a parity of lien with such Outstanding Parity Bonds (together, the "Parity Bonds").

WHEREAS, the District has issued and currently has outstanding a certain obligation payable from and secured by a junior lien on revenue of the Electric System (referred to as the "Outstanding Junior Lien Bond" and the resolution authorizing such Outstanding Junior Lien Bond is referred to as the "Outstanding Junior Lien Bond Resolution") and may issue from time to time bonds or obligations payable on a parity of lien with such Outstanding Junior Lien Bonds (together, the "Junior Lien Bonds").

WHEREAS, the Outstanding Parity Bond Resolutions and the Outstanding Junior Lien Bond Resolution authorize the District to issue, deliver and/or enter into other obligations payable from and secured by a lien on the revenue of the Electric System that is junior to the lien on such revenues securing the payment of the Outstanding Parity Bonds and the Outstanding Junior Lien Bond.

WHEREAS, pursuant to RCW 54.24.030 the District is authorized to issue revenue bonds or other obligations to pay the costs of District facilities, or any additions or betterments thereto or extensions thereof.

WHEREAS, the Commission of the District (the "Commission") deems it necessary and advisable that the District enter into a Broadband Construction Funding Contract with the Washington State Public Works Board (the "Board") in the form attached hereto (the "Broadband Construction Funding Contract") to facilitate the financing of the Project, as further provided herein.

NOW, THEREFORE, BE IT RESOLVED by the Commission of Public Utility District No. 2 of Grant County, Washington:

Section 1. Definitions. Terms not otherwise defined herein shall have the meanings set forth in the recitals of this resolution or in the Outstanding Parity Bond Resolutions.

Section 2. Participation in the Broadband Program; Authorized Contractor Representative. The District's participation in the Public Works Board Broadband Program to finance the Project is hereby approved. The District hereby appoints the General Manager, Chief Financial Officer, and Treasurer of the District, and any successor to the functions of such offices, as the authorized representatives of the District for purposes of the Broadband Construction Funding Contract (the "Authorized Contractor Representative"). Each Authorized Contractor Representative is hereby appointed as a representative of the District in connection with the construction of the Project and execution of the Broadband Construction Funding Contract and all other related documents. The signature of one Authorized Contractor Representative shall be sufficient to execute any document in order for it to be considered duly executed on behalf of the District.

Section 3. Authorization of Broadband Construction Funding Contract. The form of the Broadband Construction Funding Contract, attached hereto as Exhibit A, is hereby approved and the Authorized Contractor Representatives are each hereby authorized and directed to execute and deliver the Broadband Construction Funding Contract, in substantially the form attached hereto with such changes as may be approved by the Authorized Contractor Representatives, to facilitate the construction and financing of the Project.

Section 4. Pledge of Net Revenue. The District hereby irrevocably covenants and agrees that, unless the principal of and interest on of the District's payment obligations on the loan (the "Loan") under the Broadband Construction Funding Contract are paid from other sources, it will deposit in a fund or account created for such purpose available Net Revenue in amounts sufficient to pay such principal and interest as the same shall become due. The Net Revenue is hereby pledged irrevocably to the payment of the Loan, subject only to the prior payment of Electric System obligations as provided in the following paragraph.

The Loan shall be a special limited obligation of the District payable only from the sources identified herein and shall be payable from and secured by Net Revenue on a subordinate lien basis to the payment of all payments related to (a) Parity Bonds, in accordance with the resolutions authorizing

such Parity Bonds, including into any reserve account and in connection with any resource obligations not payable as operating expenses, and (b) Junior Lien Bonds, in accordance with the resolutions authorizing such Junior Lien Bonds, including into any reserve account.

The Loan and the District's obligations under the Broadband Construction Funding Contract do not constitute an indebtedness of the District within the meaning of the constitutional or statutory provisions and limitations of the State of Washington. The full faith and credit of the District is not pledged to the repayment of the Loan or any District obligation under the Broadband Construction Funding Contract.

Section 5. Prior Acts. All acts taken pursuant to the authority of this resolution but prior to its effective date are hereby ratified and confirmed.

Section 6. Effective Date. This resolution shall take effect immediately upon its adoption.

PASSED AND APPROVED by the Commission of Public Utility District No. 2 of Grant County, Washington this 14th day of September, 2021.

Motion was made by Mr. Cox and seconded by Mrs. Wilson authorizing the General Manager/CEO, on behalf of Grant PUD, to execute Change Order No. 11 to Contract 230-08636 with IMCO General Construction, Inc. (IMCO), increasing the not-to-exceed contract amount by $14,676,409.00 for a new contract total of $54,260,894.46 and resetting the delegated authority levels to the authority granted to the General Manager/CEO per Resolution No. 8609 for charges incurred as a result of Change Order No. 11. After consideration, the motion passed by unanimous vote of the Commission.

The Commissioners reviewed future agenda items.

The Commission calendar was reviewed.

Brett Lenz, Manager of Cultural Resources, provided the Cultural Resources Program Report.

Taffy Courteau, Customer Service Supervisor, reviewed the Customer Collection Plan Post Disconnect Moratorium.

The Commission recessed at 3:00 p.m.

The Commission resumed at 3:05 p.m.

An executive session was announced at 3:05 p.m. to last until 4:00 p.m. to discuss potential litigation with legal counsel present pursuant to RCW 42.30.110(1)(i) and to discuss legal risks of current practice or proposed action with legal counsel present pursuant to RCW 42.30.110(1)(i). The executive session concluded at 4:00 p.m. and the regular session resumed.

An additional executive session was announced at 4:00 p.m. to last until 5:00 p.m. to review performance of a public employee with legal counsel present pursuant to RCW 42.30.110(1)(g). The executive session concluded at 5:00 p.m. and the regular session resumed.

There being no further business to discuss, the Commission adjourned at 5:00 p.m. on September 14, and reconvened on Wednesday, September 22 at 7:30 a.m. at the Fairfield Inn and Suites, 230 South Maiers Road, Moses Lake, Washington for an executive session pursuant to RCW 42.30.110(1)(g) to evaluate the qualifications of applicants for the open Commission District 2 position with the following Commissioners present: Tom Flint, Larry Schaapman, Judy Wilson, and Nelson Cox. A copy of the notice of adjournment was posted to the Grant PUD website.

There being no further business to discuss, the Commission adjourned at 5:00 p.m. on September 22, and reconvened on Thursday, September 23 at 7:30 a.m. at the Fairfield Inn and Suites, 230 South Maiers Road, Moses Lake, Washington for an executive session pursuant to RCW 42.30.110(1)(g) to evaluate the qualifications of applicants for the open Commission District 2 position with the following Commissioners present: Tom Flint, Larry Schaapman, Judy Wilson, and Nelson Cox. A copy of the notice of adjournment was posted to the Grant PUD website

There being no further business to discuss, the September 14, 2021 meeting officially adjourned at 1:00 p.m. on September 23, 2021.

Larry Schaapman, President

ATTEST:

Nelson Cox, Secretary

Judy Wilson, Vice President

VACANT

District No. 2, Commissioner

Tom Flint, Commissioner

REGULAR AGENDA

Motion was made by _____ and seconded by _____ authorizing the General Manager/CEO, on behalf of Grant PUD, to execute Change Order No. 3 to Contract 430-09972R1 with Olsson Industrial Electric, increasing the not-to-exceed contract amount by $1,643,319.00 for a new contract total of $13,455,101.00 and resetting the delegated authority levels to the authority granted to the General Manager/CEO per Resolution No. 8609 for charges incurred as a result of Change Order No. 3.

M E M O R A N D U M **7/28/2021**

TO: Kevin Nordt, General Manager/Chief Executive Officer

VIA: Richard Wallen, Chief Operations Officer
Ty Ehrman, P.E., Managing Director of Power Production
Dale Campbell, P.E., Senior Manager of Power Production Engineering
Ian Jones, Manager of Power Production Electrical Engineering

FROM: Brady Brown, Power Production Electrical Engineer

SUBJECT: Contract 430-09972R1 Change Order #3

Purpose: To request Commission approval to award a Change Order No. 3 to Contract 430-09972R1 to approve an additional amount of $1,643,319.00 for a new Contract Price of $13,455,101.00 and an extension of 60 days on Milestone 1 with a new completion date of 05/31/2022 for additional new electrical equipment to prevent loss of electrical power internal to the plants during construction and reduce overall risk of forced plant outages.

Discussion:
Contract 430-09972R1 was awarded to Olsson Industrial Electric on October 27, 2020. The Power Plant Distribution Modernization is a replacement of station service and substation switchgear and protective relays at both Wanapum and Priest Rapids Dams. This project is necessary to address equipment end-of-life risks and increasing failure rates of the station service switchgear at the Priest Rapids and Wanapum Dams.

Following detailed planning with plant leadership and the Contractor several changes are recommended before starting the onsite construction work. Extensive electrical service outages internal to the power plants are required to safely replace the substation breakers. During detailed planning, it was found by the project team that Wanapum's original Switchgear #22 should also be replaced to provide a redundancy of power supply to plant unwatering pumps which prevent flooding of the powerhouse while the new equipment is being installed. Preparations for the construction outages has led to the need for several new power supply feeders, to prevent electrical service interruptions internal to the plant (shop power, maintenance cranes, and pumps) and create redundancy during installation of the new equipment. These changes require additional breakers to be purchased.

For the Wanapum Right Bank Substation replacement, additional panel needs were determined as necessary to be provided power during the installation outage. A change to the protection design has led to a change in the location of relays to increase the zone of protection and provide constructability. A task to remove locks from switchgear was shifted from District staff to the Contractor after a review by plant leadership. Work that overlapped with the future project to replace the Wanapum Emergency Diesel Generator was removed.

This work is planned to begin this fall at Wanapum Dam. There is no impact to the overall schedule because of this change order.

Justification:
This project work is being performed to address the equipment approaching or exceeding end-of-life. This equipment will provide confidence in its safety and reliability for many years to come.

Switchgear #22 serves as a Motor Control Center for the Plant's water pumps. This switchgear had been identified for future replacement from discussions with Operators and Electricians. It is original to the plant and had been modified sometime in the past raising concerns regarding its safety and reliability. This removed the ability to redundantly power all of the pumps. Spare parts are also difficult to obtain. During planning for the Project's outages, this switchgear presented difficulties. This is a critical piece of equipment. The pumps that it powers are only able to be taken offline for about 2 hours at a time to prevent flooding in the lower levels of the Plant and prevent damage to equipment there. There would also be no way to keep generators undergoing maintenance dry. This severely impedes the Contractor's ability to perform work in a timely manner. The new Switchgear would receive a new power connection to another substation increasing the reliability of the power supply as well as allowing the Powerhouse Diesel Generator to supply power in an emergency. The Contractor has extensive experience in the design and replacement of equipment such as this and would likely be sought out for a future replacement in any case. The proposed switchgear incorporates numerous safety features not available for the current equipment. The new equipment will be incorporated into the Plant's DCS system for improved monitoring and fully remote control. The Contractor has requested an additional 60 days to complete Milestone #1 to construct the additional equipment without incurring overtime.

The detailed planning stages led to extensive discussions with Plant personnel regarding options for an outage to Switchgear #22. Options included limiting work times by the contractor, installing temporary power and installing temporary pumps. In the end, the best course of action was determined to be replacement of the switchgear. This would prevent the need to purchase materials that would be used only temporarily and remove any concerns regarding the condition or suitability of the switchgear or a mitigation plan for the outage. Condition report #12708 was created to address the need to identify the impact of this further in advance.

The plan to prepare the Plants for substation outages led to a need to purchase additional new feeder breakers. A pair of breakers also needed to be changed due to a remote trip safety feature that was not known at the time the contract was written. During the replacement of the Wanapum Right Bank Substation, temporary power is needed for particular equipment such as spillway gates and fish ladder. Later discussions of this plan led to the addition of more equipment in need of power. This resulted in a requirement for the contractor to need a larger backup generator to accommodate the increased load. The panel is largely responsible for providing data to Wanapum's DCS system and would leave Operators without vital information if left unpowered. A need for a change to the clearance points on the feeder connecting each plant to the District's power distribution network was identified. A cabinet will provide a safe clearance point for each branch of this feeder.

Consultation with the protection design consultant and construction contractors has resulted in a decision to move a set of protective relays to the upstream switchgear. This change expands the equipment protected by this relay. Also, this change resolves a constructability concern identified by the Contractor where it would be necessary to design and build a new method of installing current sensors in the substations. Pursuing this as it is in the contract may lead to a significant schedule impact and increased costs. Consultation with the protection design contractor identified several items to improve the integration into existing controls and to provide better information to the Plants' DCS system. These changes require additional hardware and data cabling which will also provide better coordination across the whole system increasing the reliability of the plant switchgear. The increase in information provided to the relays will allow better protection supervision of switching operations and Emergency Diesel generator operation. Another change is to provide a current sensor in the Station Service switchgear that is of a particular type better suited to the application. If changes to the protection system are not made follow-up work will be required after the project to make the system integrate with the plant DCS system. Our protection contractor would also be unlikely to give final approval until these changes are incorporated into the protection system.

The Contractor proposed a change to one of the specified instrument transformers in order to resolve a constructability concern due to size limitations in the required location of the substation bus.

The substation disconnect interlocks have been planned for removal by District staff. This work closely fits work already planned for the contract and will remove any concerns about the locks interfering with the installation of the new breakers. The requirement for a new feeder to Wanapum's Substation #3 was removed because it would be a better fit to include this in the upcoming Emergency Diesel Generator replacement project.

An additional item in this change order is to correct the price of Change Order #1. The overhead markup was incorrectly applied according to the terms of our contract and the cost needs to be reduced.

Financial Considerations:
The project is budgeted under capital PIDs 103438, 103439, 103440, 103441 for the years 2021, 2022, and 2023.

The total cost for these changes is $1,643,319.00. Of this, $473,929.00 is for Switchgear #22 and $596,422.00 is for the protection system design changes. The remaining $572,968.00 is for the balance of the items.

A team of Power Production Engineers have reviewed the proposed changes and found them to be consistent with the costs attributable to the labor and materials needed.

The replacement of Switchgear 22 would be sought even if not in this Change Order. The equipment is critical for Plant Operations. This change order package is the most economical path forward. The project may be undertaken without the replacement, but it would increase the difficulty and likely lead to construction delay and increased costs due to scheduling work around pump outages and the interruptions to work this would cause. Options considered included installing additional pumps, careful scheduling of outages, and installing a temporary Motor Control Center. Ultimately, the project stakeholders selected this option to balance the plant risks with the required cost.

If the changes to the protection system are not made, there will likely be a need for the District to perform follow-up work to correct control errors. The system would also be less comprehensive, providing a less than optimal margin of safety. The construction would incur additional costs due to these changes easing some of the installation.

Change Order History:
CO #1 – Revision to the scope of work for the Station Service Switchgear. $80,151 (revised by this Change Order)
CO#2 – Addition of breaker controls for new Right Bank Substations and Emergency Diesel generator. $308,419.

Legal Review: See attached e-mail.

Recommendation: Commission approval to award a Change Order No. 3 to Contract 430-09972R1 to approve an additional amount of $1,643,319.00 for a new Contract Price of $13,455,101.00 and an extension of 60 days to Milestone 1 moving the completion date to 05/31/2022, and leaving the overall project completion date unchanged, for additional new electrical equipment to prevent loss of electrical power internal to the plants during construction and reduce overall risk of forced plant outages.

Rebecca Diaz

From: Brady Brown
Sent: Wednesday, August 11, 2021 12:06 PM
To: Rebecca Diaz
Subject: FW: Brady Brown shared "430-09972R1 CO#3 Commission Memo" with you.

Here is Ty's approval.

Brady Brown
Electrical Engineer
Grant County PUD
bbrown@gcpud.org
(509)754-5088 x3314

From: Ty Ehrman <Tehrman@gcpud.org>
Sent: Wednesday, August 11, 2021 12:06 PM
To: Ian Jones <Ijones@gcpud.org>; Dale Campbell <Dcampbe@gcpud.org>; Brady Brown <Bbrown@gcpud.org>; Jeff Grizzel <Jgrizzel@gcpud.org>
Subject: RE: Brady Brown shared "430-09972R1 CO#3 Commission Memo" with you.

Approved.

Ty Ehrman
DESK 509.793.1587
CELL 509.361.8201

From: Ian Jones <Ijones@gcpud.org>
Sent: Wednesday, August 11, 2021 11:53 AM
To: Dale Campbell <Dcampbe@gcpud.org>; Brady Brown <Bbrown@gcpud.org>; Jeff Grizzel <Jgrizzel@gcpud.org>; Ty Ehrman <Tehrman@gcpud.org>
Subject: RE: Brady Brown shared "430-09972R1 CO#3 Commission Memo" with you.

Approved.

Ian

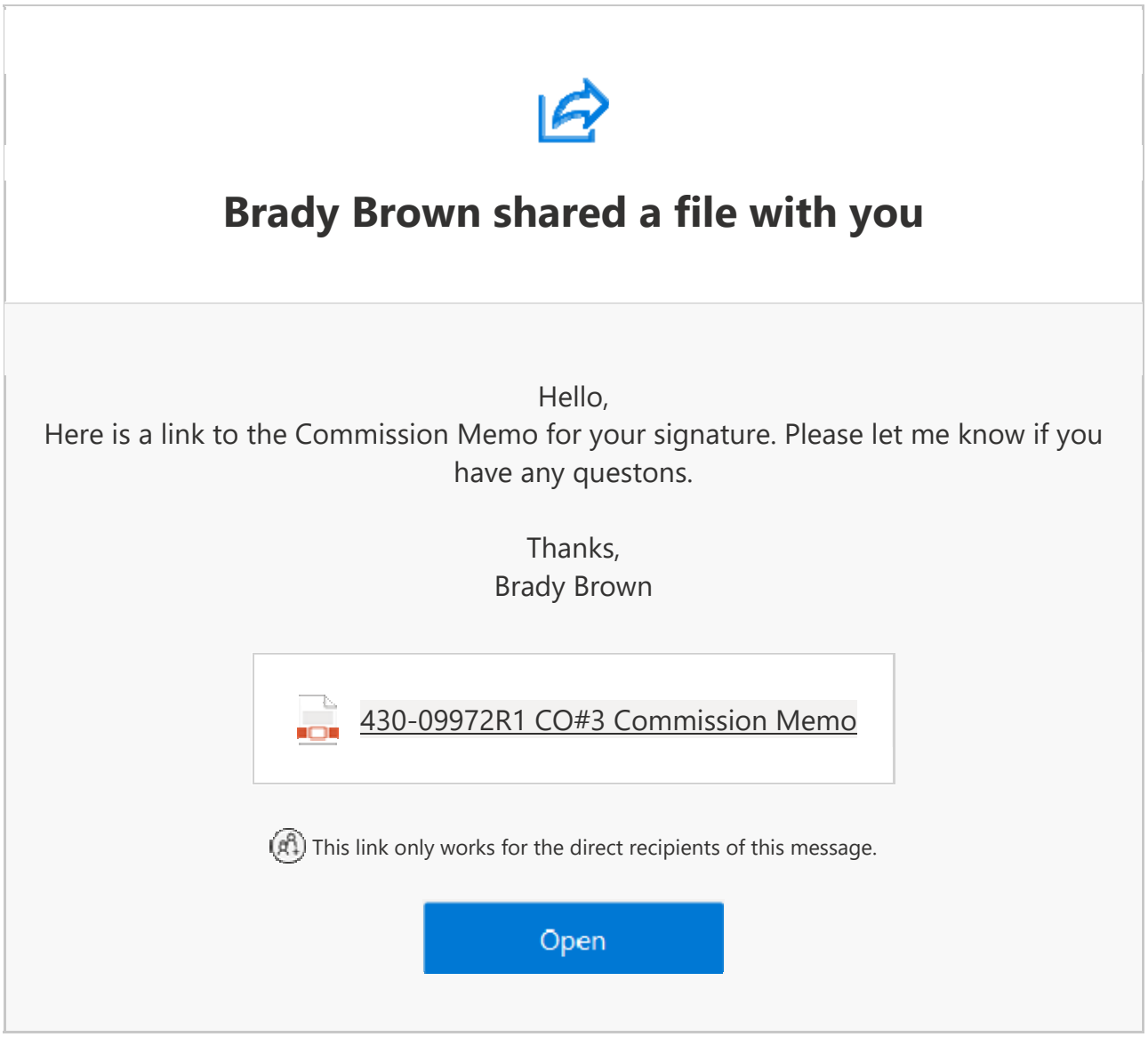
From: Dale Campbell <Dcampbe@gcpud.org>
Sent: Wednesday, August 11, 2021 11:18 AM
To: Brady Brown <Bbrown@gcpud.org>; Jeff Grizzel <Jgrizzel@gcpud.org>; Ty Ehrman <Tehrman@gcpud.org>; Ian Jones <Ijones@gcpud.org>
Subject: RE: Brady Brown shared "430-09972R1 CO#3 Commission Memo" with you.

Approved. Please use this e-mail in lieu of signature.

Dale

From: Brady Brown <Bbrown@gcpud.org>
Sent: Wednesday, August 11, 2021 11:06 AM

To: Jeff Grizzel <Jgrizzel@gcpud.org>; Ty Ehrman <Tehrman@gcpud.org>; Dale Campbell <Dcampbe@gcpud.org>; Ian Jones <Ijones@gcpud.org>
Subject: Brady Brown shared "430-09972R1 CO#3 Commission Memo" with you.



CHANGE ORDER
NO. 3

Pursuant to Section GC-11, the following changes are hereby incorporated into this Contract:

A. Description of Change:

The following changes to the Technical Specifications shall be made:

1. Replace Switchgear 22 (SL-40)

Section TS-18, REPLACE SWITCHGEAR 22 AT WANAPUM shall be added as follows:

TS-18. REPLACE SWITCHGEAR 22 AT WANAPUM

The entirety of Switchgear 22, the Unwatering and Sump Switchgear, shall be replaced with a new Motor Control Center. The final design shall be made in consultation with the District's Technical and Operations staff.

A. The fit, finish, and equipment standards requirements of previous sections shall apply here.

B. A wall mounted junction box will be installed to house the power connection to the submersible pump. The waterproof cable for this pump shall be retained as is.

C. The #2 feeder shall be moved to Sub #2, Bus #2, Cubicle 4C.

D. The existing motor conduit penetrations shall be reused. A pull box shall be installed over the existing penetrations. Two cable trays shall be installed to move cable from the existing location to the new location.

E. Generally, outages of longer than two hours to the switchgear are not acceptable, this may be modified depending on plant conditions at the discretion of District Operations staff. Temporary power shall be provided for: one unwatering pump, one sump pump, and one submersible pump while the entirety of the switchgear is out of service.

F. One spare breaker space shall be provided in the switchgear. A load calculation will be performed in order to determine the maximum load that may be installed here in the future.

G. Local ammeters and run-time meters are required for the pump motors.

H. An alternator is not required at this time. The District will install an Ovation cabinet adjacent to the new switchgear. The Contractor shall provide control cabling from new Switchgear #22 to the District's new Ovation cabinet. The cables shall be coiled up and safed-off in the cabinet. The District will perform all terminations in the Ovation cabinet. Should the District's new Ovation Cabinet not be ready to accept the control conductors from the new Switchgear #22, the

Contractor intercept and extend/reroute the existing sump pump control conductors from the Station Sump Level Control Panel into new Switchgear #22. Should this occur, the District shall be responsible for migrating all pump controls to the new Ovation Cabinet after the new Ovation Cabinet has been placed into service.

I. All controls shall be fully tested. The operation of the controls shall be demonstrated to District Operations staff.

J. The following new drawings shall be provided according to the requirements provided in TS-15.K:

1. Cabinet layout (external view)
2. Three-line showing internal connections and instrumentation.
3. One-line
4. Internal wiring diagram
5. Control schematic
6. Other existing District drawings shall be as-built.

2. Add panel D-7 to RB temp power (SL-32)

Section TS-5.I.4 shall be replaced in its entirety with the following:

4. Temporary power is required for the feeders listed in TS5-I.1 in addition to Panel D-7 at Wanapum. This is to provide critical systems with power for the duration of any outage.
   i. A detailed plan for providing the temporary power shall be submitted in writing to the District Representative for approval prior to the start of work. This plan must include transformer connections, means of secondary fuel containment, process for handling fuel deliveries, and spill control and countermeasures.
   ii. The temporary power connection for the Wanapum Indian Village shall be coordinated with the District Representative and work in the transformer cabinet will be at the discretion of the District Line Department.

3. Remove substation disconnect interlocks (SL-33)

Section TS-6.L.2 shall be added as follows:

2. Kirk-key interlocks in the substation disconnect and main breaker shall be removed and a panel plug installed in the hole left by the lock. The plug must be steel and may not be a snap-in type.

4. Move 787 relay and CT to feeder breaker (SL-34)

Section TS-4.N shall be replaced in its entirety with the following:

N. A new set of CTs shall be installed at the MV feeder breaker and connected to the 787 relay. The 787 relays shall be located in the Station Service feeder panels.

5. Correct breaker counts for new and existing Wanapum and Priest Rapids feeders (SL-35, SL-36)

   a. Section TS-3.A.2.i shall be replaced in its entirety with the following:

      i. AK-1-50 replacements:
      12 – Main & Tie Breakers – 1600A Frame w/o trip units
      1 – Spare – 1600A Frame, Trip unit, Aux. Contacts, no cassette or door

   b. Section TS-3.A.2.ii shall be replaced in its entirety as follows:

      ii. AK-1-25 replacements:
      38 – 600A sensors
      36 – 400A sensors
      2 – 600A, Shunt Trip
      1 – Spare 600A, Shunt Trip
      1 – Spare 600A
      1 – Spare 400A

   c. Section TS-3.B.3.i shall be replaced in its entirety with the following:

      i. DB-50 Replacements:
      12 – Main & Tie Breakers – 1600A Frame w/o trip units
      3 – Emergency Diesel Breakers – 1600A Frame, 1000A Trip, Aux. Contacts
      1 – Spare – 1600A Frame, 1600A Trip, Aux. Contacts

   d Section TS-3.B.3.ii shall be replaced in its entirety as follows:

      ii. DB-25 Replacements:
      38 – 600A
      5 – 600A, Shunt Trip
      24 – 400A
      1 – Spare 600A, Shunt Trip
      1 – Spare 600A
      1 – Spare 400A

6. Provide Blank Doors for Empty Cubicles (SL-37)

   Section TS-4.H shall be replaced in its entirety with the following:

      H. New blank doors shall be fabricated and installed for the Tie Breaker Relay and Instrumentation cubicles as well as 4- AK-1-25, 1- AK-1-50, 11- DB-25, and 7 DB-50 cubicles. The entire door must be replaced. The door hinges and latching hardware may be removed and re-used provided it continues to prove sufficient to secure the door. The knobs used to secure the Wanapum low voltage switchgear doors should be retained as it may be difficult to find replacements of equivalent fit and finish for them.

7. Proposed alternative for Substation CTs (SL-39)

   Section TS-6.B.2 shall be replaced in its entirety with the following:

   2. 600V CTs shall be ABB Type RLC, GE Model 137, Trinitron 129, or District approved equal, C200 Relay class or greater.

8. Provide MV Sectionalizing Cabinet (SL-44)

   Section TS-19 shall be added as follows:

   TS-19. MV SECTIONALIZING CABINET

   A cabinet shall be installed in the cable gallery near Station Service #1 at Wanapum Dam and Station Service #2 at Priest Rapids Dam for the purpose of sectionalizing the Plant's connection to the District's MV grid. This cabinet shall provide for grounding and isolation of each feeder (Isolation Transformer, Station Service #1 & #2). The cabinet shall be located such that the feeder to the isolation transformer is reused. The remaining feeders may be replaced if the length is no longer usable. Each feeder shall be re-terminated using standard MV load-break elbows. MV stand-off bushings and busses shall be used for connecting the feeders to the appropriate locations. The cabinet shall have a lockable door.

   A. The District will provide the following material:

      1. 6- Cooper LH215C4B, 200A 15kV, Four-way Junctions with brackets
      2. 6- Cooper LPC215, 200A 15kV, Bushing Cap
      3. 12- Cooper ISB215, 200A 15kV, Stand-off Bushing
      4. 6- Cooper GE215-1Y06 Grounding Elbow

9. Protection System Design

   a. Section TS-4.B.8 shall be added as follows:

      8. One SEL-2440 DPAC P/N: 24402311A1A14840 (2440#CNCK) per substation.

   b. Section TS-2.A.2 shall be replaced in its entirety with the following:

      2. SEL-3530 RTAC P/N: 2530AA2XX213X0XXXXXX (3530#7JGK) in main panel and adjacent feeder panel only.

   c. Section TS-6.D.10 shall be added as follows:

      10. Zero-sequence CTs shall be added to each of the Station Service feeders. These shall be GE 143-500 or District approved equal.

The following changes to the Specific Requirements shall be made:

10. Section SR-2.A.1 shall be replaced in its entirety with the following:

1. Milestone No. 1 -Wanapum Dam Station Service 1 and 2 (Sections TS-1, TS-2 and TS-10) and Substations 1-4 (Sections TS-3and TS-4) and Switchgear 22 (Section TS-18)

   Contractor shall not begin work prior to August 1, 2021. All work in Milestone No. 1 shall be completed by July 31, 2022. Additionally, the District will require the Contractor to adhere to the scheduling constraints detailed in District Instruction RFI-BJ. No Wanapum Unit Outages will be allowed after May 31, 2022.

11. Section SR-4.B shall be replaced in its entirety with the following:

    B. Materials Furnished By District

    The following material and equipment shall be supplied by the District:

    1. Cable specified in Section TS-9.J.
    2. Materials specified in Section TS-19.A.

    The District provided materials for Section TS-9.J will be located at Priest Rapids Dam at 29086 Highway 243 S, Mattawa, WA 99349. The materials for Section TS-19.A will be located at the Wanapum Warehouse at 14352 Highway 243 S, Building 5A, Beverly, WA 99321. Material will be available for pickup between 6:30 a.m. – 12:00 p.m. and 12: 30 p.m. – 3:30 p.m. Monday through Thursday, except District observed holidays. The Contractor shall notify the District Representative 24 hours in advance of need for the District-supplied materials.

    District observed holidays are as follows: New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day. If a holiday falls on Saturday, it will be observed on the previous Friday. If a holiday falls on a Sunday, it will be observed on the following Monday.

12. The following changes to Contract Price shall be made:

    The price of Change Order No. 1 shall be reduced by $10,049.00 to a final price of $70,102.00. This applies the correct 15% overhead to the subtotal of $69,057.00 and changes the Bond increase to $1,036.00 at the given rate. This reduction is reflected in the Contract Price Adjustment section below.

B. Time of Completion: The completion date shall remain April 30, 2023.

C. Contract Price Adjustment: As a result of this Change Order, the Contract Price shall be increased by the sum of $1,643,319.00 plus applicable sales tax. This Change Order shall not provide any basis for any other payments to or claims by the Contractor as a result of or arising out of the performance of the work described herein. The new total revised Contract Price is $13,455,101.00, including changes incorporated by this Change Order.

D. Except as specifically provided herein, all other Contract terms and conditions shall remain unchanged.

Public Utility District No. 2 of Grant County, Washington	Olsson Industrial Electric, Inc.
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

Grant County PUBLIC UTILITY DISTRICT
Excellence in Service and Leadership

Change Order Table

Contract Title:

Contract No.	430-09972R1	Award Date:	10/27/2020
Project Manager:	Brady Brown	Original Contract Amount:	$11,423,212.00
District Representative (If Different):		Original Contract completion:	4/30/2023
Contractor:	Olsson Industrial Electric, Inc.	Total CO Cost Change Amt	$2,031,889.00

CO#	Change Description	Approved by	Executed Date	Revised Completion Date	Cost Change Amount	Revised Contract Amount	Authority Level Tracking
1	Increase Contract price and Revise TS Language	Senior/Plant Mgr	05/17/21	N/A	$80,151.00	$11,503,363.00	$80,151.00
2	Increase Contract price and Revise TS Language	Managing Director	08/12/21	N/A	$308,419.00	$11,811,782.00	$388,570.00
3	Increase Contract price and Revise TS and SR Language	Comm		N/A	$1,643,319.00	$13,455,101.00	$2,031,889.00
Total Change Order Cost Change Amount					2,031,889.00		

Motion was made by _____ and seconded by _____ authorizing the General Manager/CEO, on behalf of Grant PUD, to execute Change Order No. 31 to Contract 230-3737 with GE Steam Power, Inc., increasing the not-to-exceed contract amount by $403,069.00 for a new contract total of $105,639,667.71 and resetting the delegated authority levels to the authority granted to the General Manager/CEO per Resolution No. 8609 for charges incurred as a result of Change Order No. 31.

3373

M E M O R A N D U M **Aug 11th, 2021**

TO: Kevin Nordt, General Manager/Chief Executive Officer

VIA: Richard Wallen, Chief Operating Officer
Ty Ehrman, Managing Director of Power Production
Dale Campbell, Senior Manager of Power Production
Stuart Hammond, Manager Engineering
Vince Von Paul, Project Manager

FROM: Jeff Niehenke, Electrical Engineer

SUBJECT: Contract 230-3737, Change Order No. 31

Purpose: To request Commission approval of Change Order No. 31 to Contract 230-3737 for schedule stop work notices due to COVID-19, in the amount of $403,069.00 to GE Steam Inc.

Discussion: Contract No. 230-3737 was awarded to Alstom Power, Inc. on June 9, 2015. Alstom subsequently sold this business to GE Steam Power, Inc (GE). This Contract includes a new or refurbished stator winding, rotor pole refurbishment, generator shaft refurbishment, new excitation and monitoring systems, new thrust bearing, and thorough engineering analysis for all remaining generator components for a 50-year life extension.

COVID-19 has significantly impacted the project schedule. There have been 3 different stop work notices issued to mitigate COVID-19 outbreaks or potential exposures at the Priest Rapids plant. This included two events in March and October in 2020 which were covered in Change Order 22. The third event covered by this Change Order resulted in the plant being shut down in December 2020 through January 2021. There was a total of 56 days for stop work notices issued due to sequestration of Priest Rapids Dam where the contractor was stopped suddenly from performing work. In addition to these site shutdowns, there was an overall increase in the outage duration of one additional month for other COVID impacts. The primary driver of the additional month being lost time and efficiency for the recurrent testing program.

In total there has been four months added to the Unit 4 outage schedule due to COVID site shutdowns and inefficiencies.

The Contract extension costs of the Contractor include the following:

- Fixed site costs such as forklift rental, tooling calibration/service, vehicles, and break trailer ($34K)
- Insurance, bonding, 15% overhead and Profit ($83k)
- Site management including Site Manager, Technical Representative, and Foreman ($108K)
- Seven on-site millwrights on standby ($71K)
- Project management costs including project director, contract officer, scheduler etc. ($106k)

Justification:
Change order 27 extended the outage an additional 1 month for COVID safety impacts. This Change Order 31 addresses an additional two-month extension for plant shutdown, plus 1 additional month for recurrent testing impacts. In total, 3.7 months have been added to the Unit 4 schedule due to COVID.

Financial Considerations:
All items have been independently estimated by staff and actual delay costs validated and are less than estimated costs.

The delays caused by COVID-19 were not budgeted for the project; however, for 2021, the delay costs have effectively replaced the unit 4 expected costs. Overall, the COVID delays costs will have very little impact to the 2021 and 2022 budget. The unit 4 costs and all subsequent units have now been delayed 3.7 months so the overall project cashflow has been extended. This extension will see the cost of this change order effectively added to the last year cost of the project. This Change Order is within the current 2021 budget and is included in the 2021 budget forecast. The Budget Contract Number is B100020A, the Project ID for Unit 4 is 101761 and the cost center is EB5600. The Project Manager for the Priest Rapids Generator Rehabilitation is Vince Von Paul, and the District Representative is Jeff Niehenke.

Change Order History: See attached table

Legal Review: See attached email.

Recommendation: Commission approval of Change Order No. 31 to Contract for schedule delays and stop work notices due to COVID-19, in the amount of $403,069.00 to GE Steam Inc.

Lori Englehart-Jewell

From: Dale Campbell
Sent: Wednesday, August 25, 2021 7:53 AM
To: Jeff Niehenke
Subject: FW: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

FYI. Approval from Rich on memo.

Dale

From: Richard Wallen <rwallen@gcpud.org>
Sent: Monday, August 23, 2021 3:27 PM
To: Dale Campbell <Dcampbe@gcpud.org>
Cc: Ty Ehrman <Tehrman@gcpud.org>
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

Sounds good Dale, I see that now. We should be good to go!

From: Dale Campbell <Dcampbe@gcpud.org>
Sent: Monday, August 23, 2021 3:18 PM
To: Richard Wallen <rwallen@gcpud.org>
Cc: Ty Ehrman <Tehrman@gcpud.org>
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

I updated the memo in the financial section to read as below

"The unit 4 costs and all subsequent units have now been delayed **3.7** months so the overall project cashflow has been extended. This extension will see the cost of this change order effectively added to the last year cost of the project. "

I am not finding the 3 months anywhere in the memo anymore. Refresh problem in Onedrive?

Dale

From: Richard Wallen <rwallen@gcpud.org>
Sent: Monday, August 23, 2021 3:14 PM
To: Dale Campbell <Dcampbe@gcpud.org>
Cc: Ty Ehrman <Tehrman@gcpud.org>
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

Sorry Dale, it just mentions ongoing back end outage extensions of 3 months in the memo. Just trying to understand what that statement is referencing.

From: Dale Campbell <Dcampbe@gcpud.org>
Sent: Monday, August 23, 2021 3:13 PM
To: Richard Wallen <rwallen@gcpud.org>

Lori Englehart-Jewell

From: Ty Ehrman
Sent: Tuesday, August 17, 2021 5:30 PM
To: Dale Campbell; Richard Wallen
Cc: Julie Pyper; Stuart Hammond; Jeff Niehenke
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

I've approved the C365 task and am good with the memo as written. I anticipate that commission may have questions about whether we will see additional COVID testing caused delay costs after unit 4, etc. but those questions are probably best handled by Rich during commission meeting if they do come up.

Ty Ehrman
DESK 509.793.1587
CELL 509.361.8201

From: Dale Campbell <Dcampbe@gcpud.org>
Sent: Tuesday, August 17, 2021 12:47 PM
To: Ty Ehrman <Tehrman@gcpud.org>; Richard Wallen <rwallen@gcpud.org>
Cc: Julie Pyper <Jpyper@gcpud.org>; Stuart Hammond <Shammon@gcpud.org>; Jeff Niehenke <Jniehen@gcpud.org>
Subject: FW: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

Ty/Rich,

Upcoming GE contract change order for Commission covering COVID impacts and delays. Let me know if the Contracts365 link does not work for you. Feel free to make edits to the Commission memo in track changes.

Dale

From: Stuart Hammond <Shammon@gcpud.org>
Sent: Tuesday, August 17, 2021 7:24 AM
To: Dale Campbell <Dcampbe@gcpud.org>; Jeff Niehenke <Jniehen@gcpud.org>
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

The memo and change order:

C365Web (contracts365.com)

From: Dale Campbell <Dcampbe@gcpud.org>
Sent: Tuesday, August 17, 2021 6:47 AM
To: Jeff Niehenke <Jniehen@gcpud.org>; Stuart Hammond <Shammon@gcpud.org>
Subject: FW: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

I believe this is for COVID delay impacts if I recall correctly. I would like to give Ty and Rich a heads up that this is coming. Do you have a draft of the Commission Memo that you can share via Onedrive with myself, Stuart, Ty, and Rich?

Thanks,

Lori Englehart-Jewell

From: Jeff Niehenke
Sent: Wednesday, August 25, 2021 8:01 AM
To: Lori Englehart-Jewell
Subject: 230-3737 CO31 memo approval

From: Dale Campbell <Dcampbe@gcpud.org>
Sent: Wednesday, August 25, 2021 8:00 AM
To: Jeff Niehenke <Jniehen@gcpud.org>
Cc: Stuart Hammond <Shammon@gcpud.org>
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

Hi Jeff,

I approve of the memo. Please use this approval e-mail in lieu of my signature.

Dale

From: Jeff Niehenke <Jniehen@gcpud.org>
Sent: Monday, August 23, 2021 12:19 PM
To: Dale Campbell <Dcampbe@gcpud.org>
Cc: Stuart Hammond <Shammon@gcpud.org>
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

Dale, I have revised the memo. My apologies for the confusion, I started with the CO22 memo which was for Unit 3 and failed to correct a portion of it. I have made some further clarifications on the overall outage length.

I also added the values to each of the contract extension costs. I prefer to leave such figures out of the memo and not in the public domain (commission packet) as I fear other contractors could use this information to increase their claim costs or use it against us in other contract negotiations. But I also recognized the need to inform commission on the breakdown of these costs and ok proceed with them as shown.

I have attached my excel sheet with complete breakdown of all cost calcs as well as my estimate if further details on the costs is needed.

Jeff Niehenke
Electrical Engineer
Grant County PUD
(509) 766-2528 x3177

From: Dale Campbell <Dcampbe@gcpud.org>
Sent: Friday, August 20, 2021 12:45 PM
To: Richard Wallen <rwallen@gcpud.org>; Ty Ehrman <Tehrman@gcpud.org>
Cc: Julie Pyper <Jpyper@gcpud.org>; Stuart Hammond <Shammon@gcpud.org>; Jeff Niehenke <Jniehen@gcpud.org>
Subject: RE: Contract Assignment | Department Manager Approval | Priest Rapids Dam Generator Rehabilitation

CHANGE ORDER
NO. 31

Pursuant to Section GC-12, the following changes are hereby incorporated into this Contract:

A. Description of Change:

1. COVID-19 plant sequestration delay from December 2, 2020 through January 27, 2021 and Unit Milestone extensions for other COVID-19 impacts.

   a. Stop Work Notices.

      To address COVID-19 outbreak concerns at District facilities, a Stop Work notice in accordance with Section GC-3 was issued for the period of December 2, 2020 through January 27, 2021 for plant sequestration. The return to work date of January 27, 2021 also included additional COVID recurrent antigen testing requirements as defined in Change Order No. 28.

   b. Other COVID-19 Impacts.

      The Unit 4 outage was also extended an additional one month to May 2, 2022 for the anticipated return to service date. This additional delay is due to COVID-19 impacts to the District's assembly and commissioning schedule of the Unit.

   As a result of the COVID related delays, the Milestone Schedule has been revised as shown in Change Order Item A.3 below. By executing this Change Order, Contractor agrees that all outstanding claims for the period of December 2020 through January 2021 have been satisfied.

   This Change Order Item A.1 results in an increase to the Contract Price in the amount of $403,069.00. Contractor may submit an invoice for this Change Order Item A.1 upon execution of this Change Order No. 31.

2. Change Order 31 Payment Schedule.

Change Order 31 Payment Schedule		
Item	**Description**	**Item price**
CO31-1	Unit 4 COVID delays for December 2020 through January 2021 and Unit Milestone adjustments.	$403,069.00

3. Replace Section SR-2.A.2, Milestone & Outage Coordination Schedule with the following:

TABLE SR-2.A.2 MILESTONE & OUTAGE COORDINATION SCHEDULE | Change Order 31, changes shown in grey cells

Milestone*	TASK	Days after OOS date	TASK DURATION	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10
NTP-Unit	Notice to Proceed (NTP)			**See ITB-12.A**	**11/1/2015**	**3/1/2019**	**5/20/2020**	**11/1/2018**	**11/1/2019**	**11/1/2020**	**11/1/2021**	**11/1/2022**	**11/1/2023**
MS-X01	Material Delivery	**90**		N/A	**11/1/2017**	**N/A**	**2/14/2021**	**12/1/2020**	**12/1/2021**	**12/1/2022**	**12/1/2023**	**12/1/2024**	**12/1/2025**
N/A	Out of Service Date (OOS) of Unit			**8/1/2016**	**1/29/2018**	**4/1/2019**	**11/16/2020**	**8/1/2020**	**8/1/2021**	**8/1/2022**	**8/1/2023**	**8/1/2024**	**8/1/2025**
MS-X02	Removal of ventilation system during disassembly. Estimated start **5** days after OOS date		**5**	**5 days**	**5 days**	**5 days**		**5 days**	**5 days**	**5 days**	**5 days**	**5 days**	**5 days**
MS-X03	Access provided by District to rotor in erection bay	40		**9/10/2016**	**2/19/2018**	**5/11/2019**	**2/16/2021**	**9/10/2020**	**9/10/2021**	**9/10/2022**	**9/10/2023**	**9/10/2024**	**9/10/2025**
N/A	Rehab of rotor in erection bay and rehab of poles**		307										
MS-X04	**Refurbished Rotor or (New Spare Rotor) Complete in Erection Bay**		284 **U4: see date**	**7/14/2017**	**11/30/2018**	**1/10/2020**	**1/15/2022**	**4/22/2021**	**4/22/2022**	**4/22/2023**	**4/21/2024**	**4/22/2025**	**4/22/2026**
MS-X05	Generator shaft assembly removed by District from Unit	**69 U4: see date**		**9/11/2016**	**3/20/2018**	**5/12/2019**	**12/28/2020**	**9/11/2020**	**9/11/2021**	**9/11/2022**	**9/11/2023**	**9/11/2024**	**9/11/2025**
N/A	Crating/un-crating, transporting & machining of generator shaft assembly		216										
MS-X06	Generator shaft and coupling hardware delivered to site and ready to install	**257**		**6/15/2017**	**NA**	**NA**	**NA**	**4/15/2021**	**4/15/2022**	**4/15/2023**	**4/14/2024**	**4/15/2025**	**4/15/2026**
MS-X06A	Generator shaft and thrust bearing assembly installed into lower bracket and ready to be installed into Unit.		246		**12/11/2018**	**1/24/2020**	**11/5/2021**						
MS-X07	Access provided by District to stator in Unit	**51**		**9/12/2016**	**2/26/2018**	**5/13/2019**	**2/18/2021**	**9/12/2020**	**9/12/2021**	**9/12/2022**	**9/12/2023**	**9/12/2024**	**9/12/2025**
N/A	Work platform hole must stay open to corbel diameter for pass through of turbine parts during disassembly	**42-80**											
N/A	Work platform hole may be closed for short durations with coordination through District of turbine rehab work	81-257											
N/A	Remove winding, rehab core/frame/soleplates, and install new winding, install & remove work platform. **Unit 4: rehabilitate ABB winding including inspecting, testing, cleaning and repair**		259										
MS-X08	Stator Complete ***	**301**		**7/24/2017**	**11/26/2018**	**1/27/2020**	**12/23/2021**	**4/29/2021**	**4/29/2022**	**4/29/2023**	**4/28/2024**	**4/29/2025**	**4/29/2026**
MS-X09	Monitoring Systems Complete	**301**		**7/24/2017**	**11/26/2018**	**1/27/2020**	**12/23/2021**	**4/15/2021**	**4/15/2022**	**4/15/2023**	**4/14/2024**	**4/15/2025**	**4/15/2026**
MS-X10	Lower ventilation system final install during assembly		**4**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**
MS-X11	Upper ventilation system final install during assembly		**4**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**	**4 days**
MS-X12	Commissioning of exciter, monitoring systems, and generator, and acceptance testing (not including loss testing of TS2-12.15.1) **See CO22 for reduced acceptance testing**	~304	**37**	**37 days**	**37 days**	**25 days**	**37 days**	**37 days**	**37 days**	**37 days**	**37 days**	**37 days**	**37 days**
N/A	Target return to service date	**Unit 4, 18 Month**	.		**2/28/2019**	**5/30/2020**	**5/2/2022**						
MS-X13	Installation, O&M manuals, shop test reports, field test reports, and quality records for Unit	425		**2/28/2018**	**4/29/2019**	**7/29/2020**	**7/1/2022**	**9/30/2021**	**9/30/2022**	**9/30/2023**	**9/29/2024**	**9/30/2025**	**9/30/2026**

* X in Milestone number represents the Unit number, i.e. MS-902 is Unit 9 Milestone 2 ** Eight weeks (56 days) of duration is reserved for District to perform asbestos abatement of windings per TS2-15.2

*** Priest Rapids Unit P03 shall have 17 days added to the date shown for stator coupling flange reinforcement **** see CO18 for Milestones MS-114,115,115A

B. Time of Completion: The completion dates of Section SR-2.A.2 shall be replaced with the revised Milestone dates in Change Order Item A.3 above. Liquidated damages, if any, for SR-2.A.2 shall be assessed on the revised completion dates.

C. Contract Price Adjustment: As a result of this Change Order, the not to exceed Contract Price shall be increased by the sum of $403,069.00 plus applicable sales tax. This Change Order shall not provide any basis for any other payments to or claims by the Contractor as a result of or arising out of the performance of the work described herein. The new total revised maximum Contract Price is $105,639,667.71, subject to the Price Adjustment provisions of Section SR-13, including changes incorporated by this Change Order.

D. Except as specifically provided herein, all other Contract terms and conditions shall remain unchanged.

Public Utility District No. 2 of Grant County, Washington	GE Steam Power, Inc.
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

Grant County PUBLIC UTILITY DISTRICT
Excellence in Service and Leadership

Change Order Table

Contract Title: Priest Rapids Dam Generator Rehabilitation

Contract No.	230-3737	Award Date:	6/9/2015
Project Manager:	Jeff Niehenke	Original Contract Amount:	$87,903,514.00
District Representative (If Different):		Original Contract completion:	Based on NTP
Contractor:	GE Steam Power, Inc.	Total CO Cost Change Amt	$17,736,153.71

CO#	Change Description	Approved by	Approval Date	Revised Completion Date	Cost Change Amount	Revised Contract Amount	Authority Level Tracking
1	Increase the Contract Price for the supply of a complete load system prior to the outage.	Dept Mgr	09/17/15	N/A	$93,691.19	$87,997,205.19	$93,691.19
2	Replace Sections TS2-8.4, TS2-10.3 and SR-2.A.1 Milestone Schedule. Increase the Contract Price for Contractor to provide engineering analysis and design for new thrust bearing assembly.	Director	04/26/16	N/A	$345,446.00	$88,342,651.19	$439,137.19
3	Increase the Contract Price for the addition of a RPM meter.	Dept Mgr	04/27/16	N/A	$40,257.00	$88,382,908.19	$479,394.19
4	Replace Section GC-30, Bond in Lieu of Retainage and Exhibit "I" Bond in Lieu of Retainage.	Hydro Eng Supvr	05/05/16	N/A	$0.00	$88,382,908.19	$479,394.19

5	Increase the Contract Price for the supply of thrust bearing for up to 10 units and replace SR-S.A.1 Milestone Schedule. Replace Section TS1-9.4 paragraph 5 and TS1-9.4.D.	Comm	05/24/16	N/A	$6,924,838.00	$95,307,746.19	$7,404,232.19
6	Increase the Contract Price for ten (10) additional items, replace Section SR-2.A.1 and replace Section Nos. TS2-16.2, TS2-16.2.1, TS2-16.3 and TS2-15.9.	Director	07/14/16	N/A	$399,128.00	$95,706,874.19	$399,128.00
7	Contractor to supply and install a shaft grounding system on 10 Units. Extend the Milestone schedule in Section SR-2.A.2.	Hydro Eng Supvr	07/27/16	N/A	$0.00	$95,706,874.19	$399,128.00
8	Contractor to supply and install lower stator frame sole plates, supply of generator shaft to turbine shaft coupling hardware, replace Section TS2-8.2.3, delete Section TS2-8.2.4. reinforcement of stator frame coupling flange, upper bracket engineering analysis, payment schedule for CO 8 and replace the table in Section SR-2.A.2.	Comm	09/27/16	N/A	$4,629,926.94	$100,336,801.13	$5,029,054.94

9	Raise and lower rotor rim, inspect and machine rotor spider support ledge, supply and install replacement rotor baffle plates, center the rotor rim to the spider, for the refurbishment of Unit 1 rotor.	Comm	11/08/16	N/A	$702,620.00	$101,039,421.13	$702,620.00
10	Replace Sections TS1-14.2.T and TS2-15.16.2. Increase the Contract Price for new brass dampener collar on 89 poles, on-site repair to the stator frame and rotor spider, and repairs to the rotor poles. Replace the Section SR-2.A.1 Milestone Schedule.	Director	11/22/16	N/A	$200,665.35	$101,240,086.48	$200,665.35
11	Replace Section TS2-17.2.1 and SR-2.A.2. Bid Item No. 9 to be modified into 4 payments. Contractor to provide on-site labor to uncrate excitation equipment and move equipment into powerhouse storage.	Hydro Eng Supvr	01/12/17	N/A	$0.00	$101,240,086.48	$200,665.35
12	Increase the Contract Price for design of new rotor spider and rotor rim, lead abatement on stator frame, design of rotor baffle plates, machining to rotor brake track segments, installation of radial dowel in upper bracket supports and reduction to scope in CO9 of refubishment of rotor. Replace SR-2.A.1 and SR-2.A.2	Sr Mgr	05/18/17	N/A	$293,325.00	$101,533,411.48	$493,990.35

13	Add two work stipulations for working on the Unit 1 stator and replace Section SR-2.A.2.	Dept Mgr	06/08/17	N/A	$0.00	$101,533,411.48	$493,990.35
14	Increase the Contract Price for spare rotor spider, replace Sections TS2-13.3 and TS2-14.3 and replace Section SR-2.A.1	Comm	06/28/17	N/A	$2,863,275.09	$104,396,686.57	$3,357,265.44
15	Increase the Contract Price for supply of one spare thrust bearing, refurbish work to slip rings, additional field work, design improvements to airhousing baffles, additional stator core and winding RTDs, and thrust bearing pressure transmitters. Revise Sections SR-13.A, B, D and E. Replace Sections SR-2.A.1 and SR-2.A.2.	Managing Director	12/14/17	N/A	$492,180.42	$104,888,866.99	$492,180.42
16	Increase the Contract Price for additional rotor and stator work and rotor pole dampener collars for Units 3-10.	Comm	03/15/18	N/A	$1,439,710.57	$106,328,577.56	$1,931,890.99
17	Increase the Contract Price for reinforcement of stator frame coupling flanges on Unit 2, revise payment of CO16-1 and CO11-5, and replace SR-2.A.1 and SR-2.A.2.	Managing Director	05/22/18	N/A	$179,979.00	$106,508,556.56	$179,979.00

18	Replace Sections SR-2.A.1 and SR-2.A.2. Revise CO15 pressure test dates.	Dept Mgr	06/21/18	N/A	$0.00	$106,508,556.56	$179,979.00
19	Increase the Contract Price for Unit 2 thrust bearing assembly and installation, supply and installation of RTDs on Unit 2 and supply and install of new coupling guard on Unit 2.	Managing Director	09/19/18	N/A	$155,913.00	$106,664,469.56	$335,892.00
20	Replace the Milestone schedule in Section SR-2.A.2.	Dept Mgr	11/26/18	N/A	$0.00	$106,664,469.56	$335,892.00
21	Extend the warranty of the thrust bearing assembly for Unit 2 by 12 months, package bus ducts for Units 3, 5, 7, and 9 to allow for stacking of crates two high, replace the table in CO 16, Item A.4, repair damage to stator winding, install lower stator baffles of Unit 2, and perform additional work to coupons cutting on the rotor spider of Unit 2.	Dept Mgr	03/07/19	N/A	$62,382.58	$106,726,852.14	$398,274.58
22	Unit 3 additional rotor and stator refurbishment work, winding rehabilitation in lieu of replacement, and replace the Milestone schedule in Section SR-2.A.2 (reference 31 Items listed in the Table of Contents)	Managing Director	04/04/19	N/A	-$1,310,120.48	$105,416,731.66	$398,274.58

23	Supply new thrust runners and associated Bonds for Units 4 and 5 ahead of Unit NTPs, replace Section SR-13.A - Off-site (Factory) Labor Adjustment, and replace Section SR-13.I - Examples of Bid Item Price Adjustments.	Managing Director	08/15/19	N/A	$0.00	$105,416,731.66	$398,274.58
24	Refurbish 83 rotor poles for Unit 3 only, compensate the Contractor for delays to the stator lifting, Contractor supplied stator lifting system with string pot displacement sensors at a reduced cost, and replace the Milestone schedule in Section SR-2.A.2	Sr Mgr	01/16/20	N/A	-$31,152.86	$105,385,578.80	$398,274.58
25	Unit 4 additional rotor and stator refurbishment work, winding rehabilitation in lieu of replacement, new work, and replace the Milestone schedule in Section SR-2.A.2 (reference items listed in Table of Contents)	Dept Mgr	05/14/20	N/A	-$1,821,726.47	$103,563,852.33	$398,274.58
26	Compensate the Contractor to inspect and repackage the spare rotor supplied under Change Order No. 14	Sr Mgr	08/13/20	N/A	$95,544.65	$103,659,396.98	$493,819.23

27	Compensate the Contractor for repairing damaged field leads, COVID-19 associated delays, schedule extensions, main bus support reconfiguration, upper bracket work platform improvements, provide delivery clarifications on CO 5 items, and replace the Milestone Schedule in Section SR-2.A.2.	Comm	12/09/20	N/A	$1,246,414.40	$104,905,811.38	$1,740,233.63
28	Increase the Contract Price to reimburse the Contractor for costs incurred as part of the required recurrent antigen testing related to COVID-19.	Sr Mgr	02/08/21	N/A	$69,765.00	$104,975,576.38	$69,765.00
29	Contractor shall provide letter stating the NEMA temperature classification of the new windings installed in P09 and P02 as well as the thermoset or thermoplastic properties of all materials used in the rehabilitation of all generators, implement a design improvement recently identified to the replacement rotor pole damper collars, implement design improvements to the upper stator baffle sealing ring, and increase the not to exceed amount for recurrent antigen testing.	Sr Mgr/Plant Mgr	04/26/21	N/A	$79,149.84	$105,054,726.22	$148,914.84
30	Compensate Contractor for a more extensive reinforcement solution to the stator frame coupling flange for Unit 4.	Managing Director	06/08/21	N/A	$181,872.49	$105,236,598.71	$330,787.33

31	Compensate Contractor for Unit 4 COVID delays and replace the Milestone Schedule in Section SR-2.A.2.	Comm		N/A	$403,069.00	$105,639,667.71	$733,856.33
Total Change Order Cost Change Amount					17,736,153.71		

For Commission Review – 09/28/2021

Motion was made by _____and seconded by _____authorizing payment to Insulation Masters, Brandon Lang, for invoice #9320 dated April 19, 2021 in the amount of $17,420.00.

xxxx

M E M O R A N D U M **Date 9-13-2021**

TO: Kevin Nordt, General Manager/Chief Executive Officer

VIA: Jeff Bishop, Chief Financial Officer
Kevin McCarthy, Senior Manager of Internal Services
Mike Harr, Supervisor/Dept Manager (if applicable)

FROM: Supervisor Facilities

SUBJECT: Commissioners Approval for payment exceeding Directs authorization

Discussion:

We need approval to pay the bill as it exceeds the allowable amount of $15,000.00

Purpose:
Work Order number 305463 was approved and spray in Insulation requested at the Priest Rapids Hatchery
Contractor chosen to do the work was Insulation Masters, Brandon Lang, 4296 N. Stratford RD.
Moses Lake WA 98837. 509-766-5661

Discussion:
During walk through the discussion at the Hatchery was replacement of Insulation to the top and side walls. For a cost of $5,500.00 and $1,900.00 for a total of $7,400.00

At that time an additional ask was requested from Eric Lauver of a carport rework of failing insulation. That quote was $6,800.00 for the lid insulation with removal of the old and $1,900.00 for the walls which were not insulated at that time.

Work was performed and installed on approx. 4-1-2020

Total bill was $16,100.00 plus tax of $1,320.20

Grand Total $17,420.00

Which exceeded directs limit authorized total of $15,000.00

Financial Considerations:

We have since lowered the allowable directs limit to $2,500.00 by the facility foreman with multiple quotes and with supervisor approval of a larger amount to be used in emergency only.
This will prevent future occurrences from happening and give more businesses the opportunity to bid on purchase orders.
A condition report was put in the system 9-14-21 for Robert Lougee's team to review and task.

Recommendation: Commission approval to pay Invoice number 9320 from Insulation Masters dated 4-19-2021.

Insulation Master Inc
4296 Stratford Rd NE
Moses Lake, WA 98837

Invoice

DATE	INVOICE #
4/19/2021	9320

BILL TO
Grant County PUD PO Box 878 Ephrata, WA 98823

P.O. NO.	TERMS	PROJECT
	Net 30	

DESCRIPTION	QTY	RATE	AMOUNT
Insulation per bid proposal #9195, Located at Priest Rapids Dam, 100% Complete		16,100.00	16,100.00T
SALES TAX (SHIP TO: GRANT CO-1300)		8.20%	1,320.20
		Total	$17,420.20
		Balance Due	$17,420.20

Thanks,
Rose Paul
Accounting Assistant/Accounts Payable
OFFICE 509.766.2539
EXT. 2163

Melissa Leonard

To: Randalynn Hovland
Subject: RE: Memo for approval from commisioners.

From: Kevin McCarthy <kmccarthy@gcpud.org>
Sent: Wednesday, September 15, 2021 6:57 AM
To: Jeffrey Bishop <jbishop@gcpud.org>
Cc: Mike Harr <mharr@gcpud.org>; Tim Fleisher <Tfleish@gcpud.org>
Subject: Re: Memo for approval from commisioners.

Approved

Sent from my iPhone

> On Sep 15, 2021, at 6:56 AM, Jeffrey Bishop <jbishop@gcpud.org> wrote:
>
> Thank you for putting this together Mike. Subject to Kevin's approval, please move forward with submitting to Randi this morning. This means it will get Into the packet for the Sept 28th Commission meeting. One quick request, please change my title from chief operating officer to chief financial officer as I don't want to offend Rich Wallen. 😃
>
> Sent from my iPhone
>
> > On Sep 14, 2021, at 9:35 AM, Mike Harr <mharr@gcpud.org> wrote:
> >
> > <image001.gif>
> > Jeff,
> >
> > Find attached memo for commissioners approval for exceeding directs amount of $15,000.00
> > Randalynn said you had a deadline for the commissioners items that you need to present and it has been missed for this session?
> > I was tasked with this on Thursday so I am hoping this can be resolved as quickly as possible.
> > The vendor has been waiting for payment since April.
> > Any questions please reach out and ii will resolve as quickly as possible.
> >
> > **Mike Harr**
> > *Facilities Supervisor*

For Commission Review – 09/14/2021

Motion was made by _____ and seconded by _____ authorizing the General Manager/CEO, on behalf of Grant PUD, to execute Contract 430-10427 with Nokia Networks, “Nokia of America Corporation”, in an amount not-to-exceed $3,779,436.62.

xxxx

M E M O R A N D U M **July 28, 2021**

TO: Kevin Nordt, General Manager/Chief Executive Officer

VIA: Jeff Bishop, Chief Finance Officer
Derin Bluhm, Chief Technology Officer DB

FROM: David Parkhurst, IT Manager – Telecom Engineering DP

SUBJECT: Award of Wide Area Network Common Fiber Backbone, Contract 430-10427

Purpose: To request Commission approval to award contract 430-10427 to Nokia Networks, "Nokia of America Corporation" in the amount of $3,779,436.62

Discussion: Grant PUD's fiber backbone has been built out and maintained organically over time to serve the needs of the District. The resulting network is a patchwork of varying models and types of equipment, with much of that equipment at or near end of life. While the network is currently functional, Telecom engineering has determined that functionality and capacity constraints of the optical network requires re-architecture and replacement to ensure ongoing reliable service and to meet future needs.

To that end, Grant PUD Telecom Engineering performed a Request for Proposal (RFP) process in 2020. Of the fifteen (15) respondents, Nokia Networks was selected based on the approved scoring criteria. Per their response, Nokia will design, supply, engineer, and support the necessary equipment to form a new high-capacity wide area transport network to function as the Grant County Backbone (GCB) for PUD communications, over existing PUD fiber between 17 core locations. The GCB will provide necessary growth capacity on existing fiber plant to meet the needs of the Wholesale Fiber, Business/Information Technology (IT), and Operational Technology (OT) networks for years to come, including a scalable design to easily expand as needed in the future.

Justification: This Contract provides for modernization and upgrade of the District's optical network. The district will receive capacity and operational simplicity benefits for all three lines of business, Wholesale Fiber, IT, and OT. The wholesale network will be augmented allowing continued growth, both in terms of county footprint, number of subscribers, and rate payer utilization. The IT and OT portions of the business will also benefit from the ability to utilize the same common yet diverse core transport infrastructure.

If not approved, the wholesale networks will be unable to support projected growth while the overall network becomes increasingly unreliable for all intended uses with notable service degradation. Efforts to support and maintain the legacy equipment and architecture will continue to escalate with diminishing returns as spares are sourced from obsolete and used inventories. Ultimately, additional physical fiber plant would be required to augment the communications network.

This project is arguably "past due", requiring creative use of existing resources to extend the usable life as far as possible, but current growth demands additional resources now, as well as newer technology to leverage existing investments more efficiently.

Financial Considerations: District staff concluded that the Contract Price is fair and reasonable based upon the scope of work, materials, final negotiated price and with Grant PUD technicians performing the installation of the equipment under Engineering direction.

The project estimates contract award no later than 9/14/21 and an aggressive 20 weeks for installation of hardware and software to be complete by 2/1/22. The contract would remain open after implementation to provide initial support through 1/31/24.

This project anticipates a net savings of up to ~$8M versus the alternative of augmenting the equivalent fiber plant at a cost of ~$9.5M (383 miles @ $25k/mile), plus an additional savings of ~$2M minimum would also be represented, as the equipment capacity would also need to be addressed.

The "Network Core Replacement" Technology Roadmap project is budgeted for 2021 and 2022 as PID #13497 under Cost Center FE5000 "CTO Telecom Engineering".

Contract Specifics:

- This contract was negotiated via RFP rather than bid.
- Negotiations were protracted and involved District Legal and Risk teams, requiring many edits and conversations to resolve the differences, the most substantial of which resulted in the elimination of previously planned vendor deployment of equipment on premise to eliminate risk exposure to the district.
- Contract includes two (2) years of hardware and software support following production deployment.

Recommendation: Commission approval to award materials and professional services contract 430-10427 to Nokia Networks, "Nokia of America Corporation" in the not to exceed contract amount of $3,779,436.62

Legal Review: See attached e-mail(s).

Nokia Networks Contract 430-10427

Technology Infrastructure Modernization
Grant County PUD Common Backbone Network (GCB)

08/24/2021 **UPDATED**

Contract overview and supporting detail for selection of Nokia Networks

Grant PUD

Overview: Problem Statement

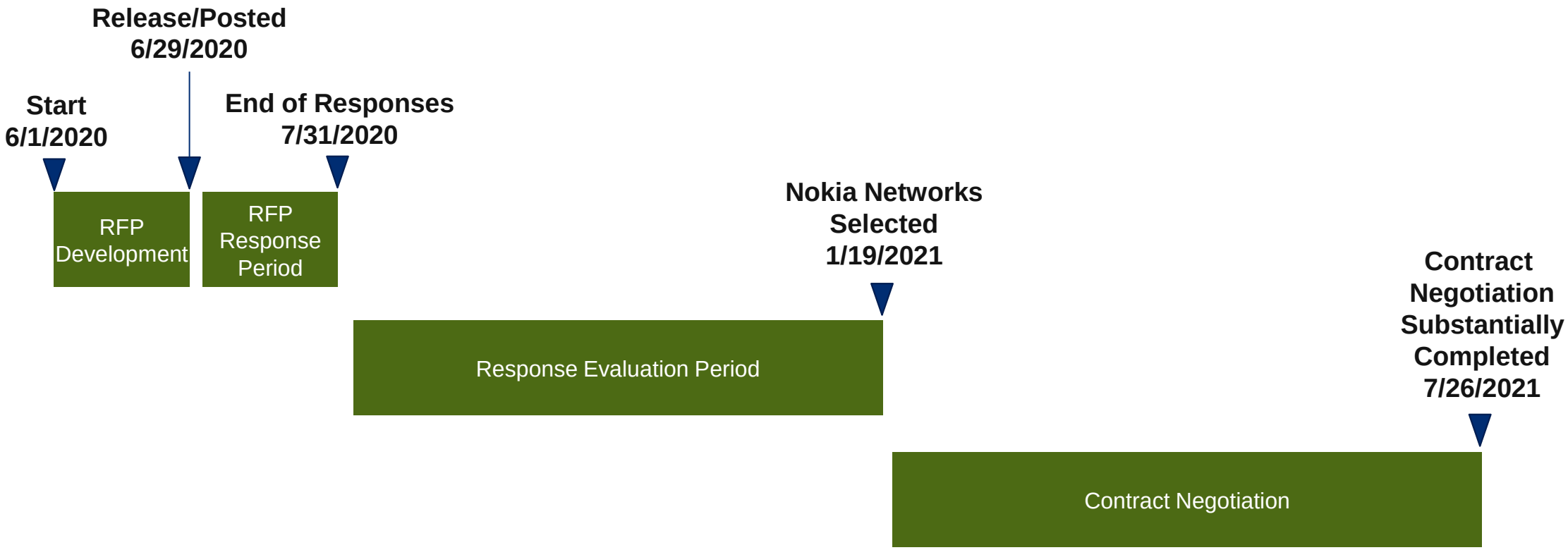
- Our existing fiber network was developed organically over 15+ years without a wholistic design or focus on long-term operations and needs.
- Equipment was not standardized and much of it has reached end-of-life requiring replacement.
- The existing network is functional, but a redesign is needed to meet long-term needs for performance, scalability and cost-effective life-cycle management.

Overview: Resolution Approach

- Grant PUD Telecom Engineering performed a Request for Proposal (RFP) process in 2020
- 15 experienced Networking and Telecom providers proposed solutions to address our requirements
- A scoring model was created to evaluate respondents with assistance of Procurement
- Nokia Networks was selected as the highest scoring qualified RFP respondent

Selection and Contracting Timeline

The RFP development and response period was relatively short, following by an ***extensive*** evaluation period to fully understand the response details and implications. The contract negotiations that followed selection of Nokia Networks were equally challenging as risks and legal concerns by both parties were addressed.



Overview: RFP Finalist Summary*

Of the 15 respondents, many were resellers providing the equivalent hardware and similar approaches with identical scores. The 4 finalists below were selected after initial proposal reviews and detailed analysis for capabilities and cost effectiveness

Ultimately, Nokia separated itself from the group with high performing hardware, comprehensive management solution and ability to perform configuration and installation services. We ultimately determined that Grant PUD resources would be used for installation to remove insurance concerns and reduce risks.

Vendor	Hardware & Services	Score
Nokia	$3,561,027**	1640
LightRiver	$3,150,677	1580
GP&A	$3,707,234	1580
Lumen	$4,140,882	1580

* The full RFP Scoring Matrix is stored with other RFP documents on Contracts365.

** Dollar values subject to change during contract negotiation with refinement of scope and conditions.

Recommendation and Request

Management, following comprehensive review of respondents to our RFP and extensive negation, is requesting Commission approval to award materials and professional services contract 430-10427 to Nokia Networks, “Nokia of America Corporation” in the not to exceed contract amount of $3,779,436.62

- Total Cost $3,779,436.62
  - $2458k Hardware
  - $403k Implementation Services
  - $918k Support & Maintenance
- Implementation Schedule
  - Start September 14, 2021
  - End February 1, 2022
- Term
  - Equipment support provided through January 31, 2024

RFP Winner Selection Methodology

		Minimum Viable	First Cut		Second Cut			Finalist	
Vendor	Hardware+Svcs	Score	Excluded due to Price	Multiple Vendor	Implementation Experience	Manufacturer Experience (Optical & Routing)	Single Management Tool		Quality References
Ribbon	**$2,478,156.00**	1610	NO	NO	3	~~2~~	NO	NO	
CCI	**$2,595,250.00**	1640	YES (Unrealistic)	NO			NO	NO	
Core Telecom	**$3,026,930.00**	1610	NO	YES	3	~~2~~	NO	NO	
Nokia	**$3,150,438.00**	1640	NO	NO	5	5	YES	YES	YES
LightRiver	**$3,150,677.00**	1580	NO	NO	5	4	YES	YES	YES
Century Link	**$3,364,883.00**	1580	NO	NO	4	4	YES	YES	YES
Infinera	**$3,675,941.00**	1580	NO	NO	4	~~4~~	YES	NO	
GP&A	**$3,707,234.00**	1580	NO	NO	4	4	YES	YES	Manufacturer
Datec	**$4,294,000.00**	1640	YES	YES					
ePlus	**$4,392,658.00**	1640	YES	NO					
WWT	**$4,490,310.00**	1640	YES	NO					
Kovarus	**$4,584,252.00**	1640	YES	NO					
Telamon	**$4,603,104.00**	1580	YES	NO					
Ednetics	**$4,911,099.00**	1640	YES	NO					
Fujitsu	**$5,283,152.00**	1640	YES	YES					

- *All* respondents met the technical solution criteria for must have requirements
- First Round: Value decision made to eliminate all above $4M or multiple vendors
- Second Round: Reviewed detailed designs, tools and experience to select finalists
- Final Round: In depth review of solution and references, overall satisfaction with tools/features/cost

RFP Winner Selection Methodology

Initial Review

- All proposals were reviewed and scored against requirements to develop “proposal score”.

First Cut

- As all proposals met the solution requirements, pricing was used to reduce the field. $4M was considered the cut line, eliminating 7 of the respondents.
- Another respondent was eliminated due to missing components in their pricing and questions about the rationality of the proposed solution price.
- A final vendor was removed as they proposed a dual vendor solution partnership deemed challenging.

Second Cut

- Experience of the implementation partner and the vendor were reviewed in the context of the proposed design, hardware and management/monitoring tooling. Eliminating 4 more respondents.

Finalists

- Total solution, references, feature trade offs and cost were reconsidered with additional discussion with the vendors. Ciena and Nokia were the proposed hardware vendors among the 4 finalists.
- NOKIA selected as the winner

Variance: Contract Price vs Proposal

The original vendor responses to the RFP all provided viable solutions for the near-term growth in network traffic. The Nokia proposal provided 3 alternatives, including the selected option for an architecture that was much simpler to manage and operate with a lower level of required engineering overhead.

After initial review, Telecom Engineering identified opportunities to enable future growth without a second round of equipment replacement by utilizing a larger chassis (essentially buying a larger cabinet that could be expanded over time).

The largest factor in the change in price from proposal to contract, was duplication of the controller cards for added resiliency and future capacity handling. Essentially, we went from one (1) controller in each of 2 smaller boxes to ***dual*** controllers in each of 2 larger expandable boxes.

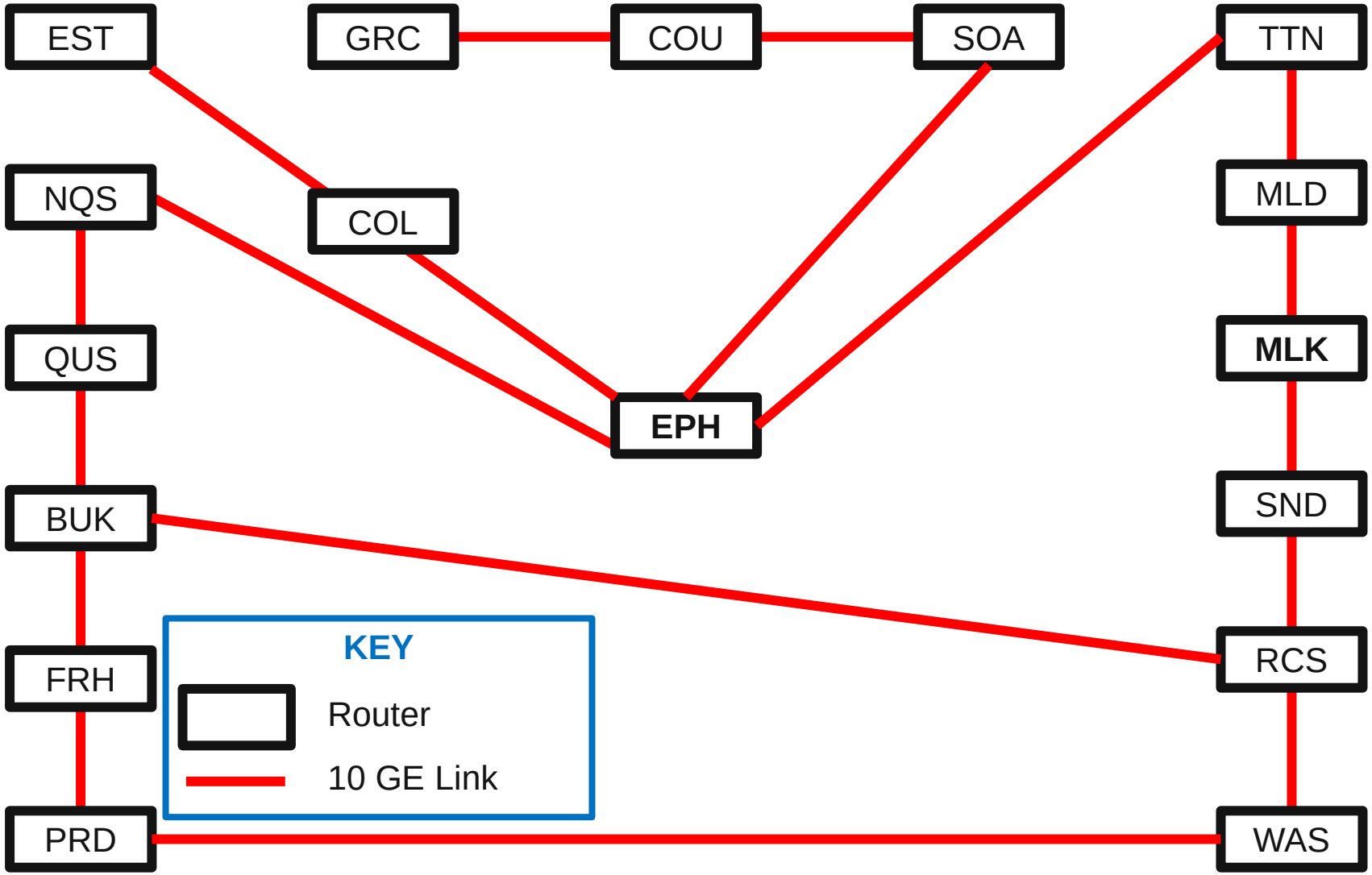
The controllers are the brains/engines of the network and the most expensive components.

Net of all changes to configuration and services, we ultimately added ***~$218k*** to the final contract value.

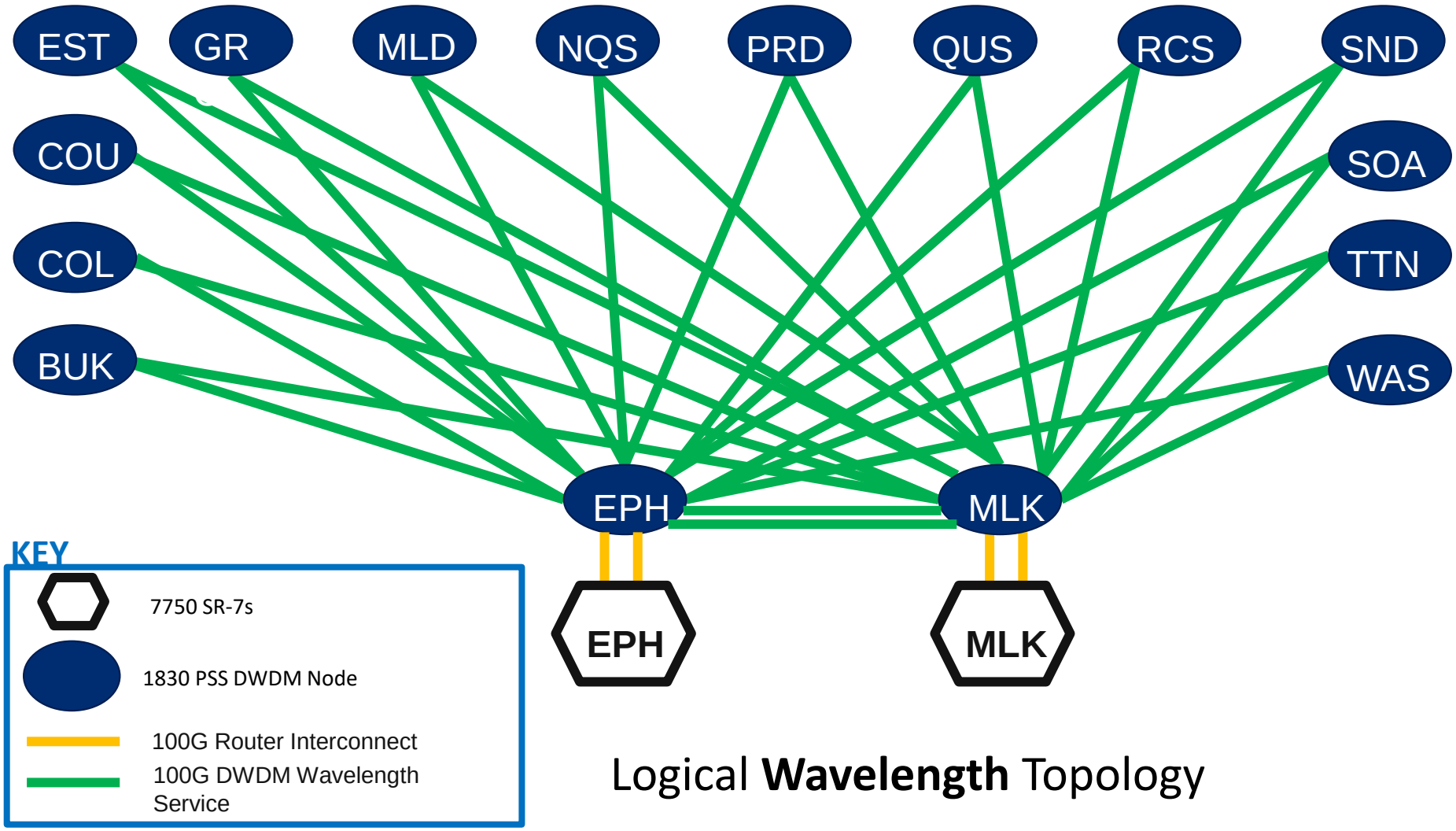
Note: The initial RFP responses were priced on ***proposed solutions***, not the ultimate final configuration.

Current State and Challenges

- The growth of internet-based applications is driving the need for massively scalable service provider networks
- Current network has exceeded its growth capacity
- Current network has grown over time in reaction to needs and is inefficient in its design, difficult to manage, and increasingly difficult to troubleshoot.



Future State and Benefits



Logical **Wavelength** Topology

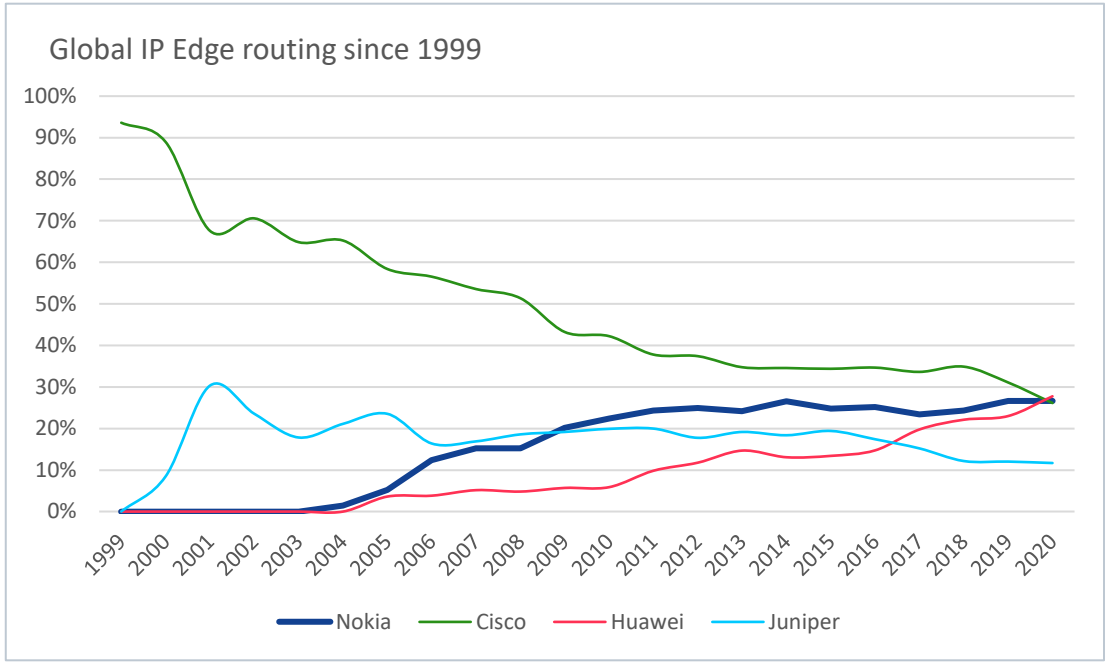
- Massive scalability increase with full resilient signal design providing improved reliability
- Centralized management suite for simplified control and change deployment with less manual work
- Hub and spoke design improves network performance, allows for targeted growth where needed, and simplifies operations
- Consistent design, efficient growth, and lower complexity

How will we achieve this network transformation?

- Nokia to create the configurations and preconfigure the optical equipment for GCPUD to install
- Nokia to create the configurations of the routers for GCPUD to install
- Nokia to remotely configure the Network Management systems
- Nokia to create and help execute a migration strategy to move GrantFiber hubs from the old network to the new network.
- Nokia to perform remote final testing to confirm successful migration and functionality of the network.

Nokia has long history of top performance

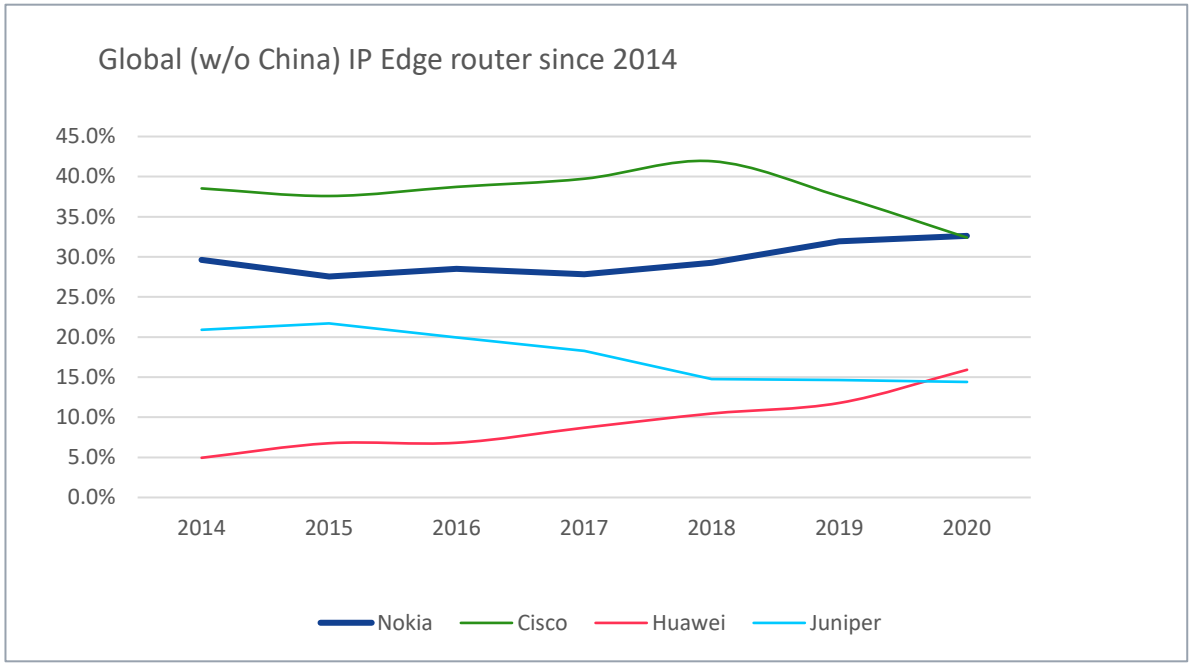
#2



Global edge router

Huawei	28%
Nokia	27%
Cisco	26%

#1



Global edge router minus China

Nokia	32.6%
Cisco	32.4%

NOKIA has long history as top optical transport manufacturer

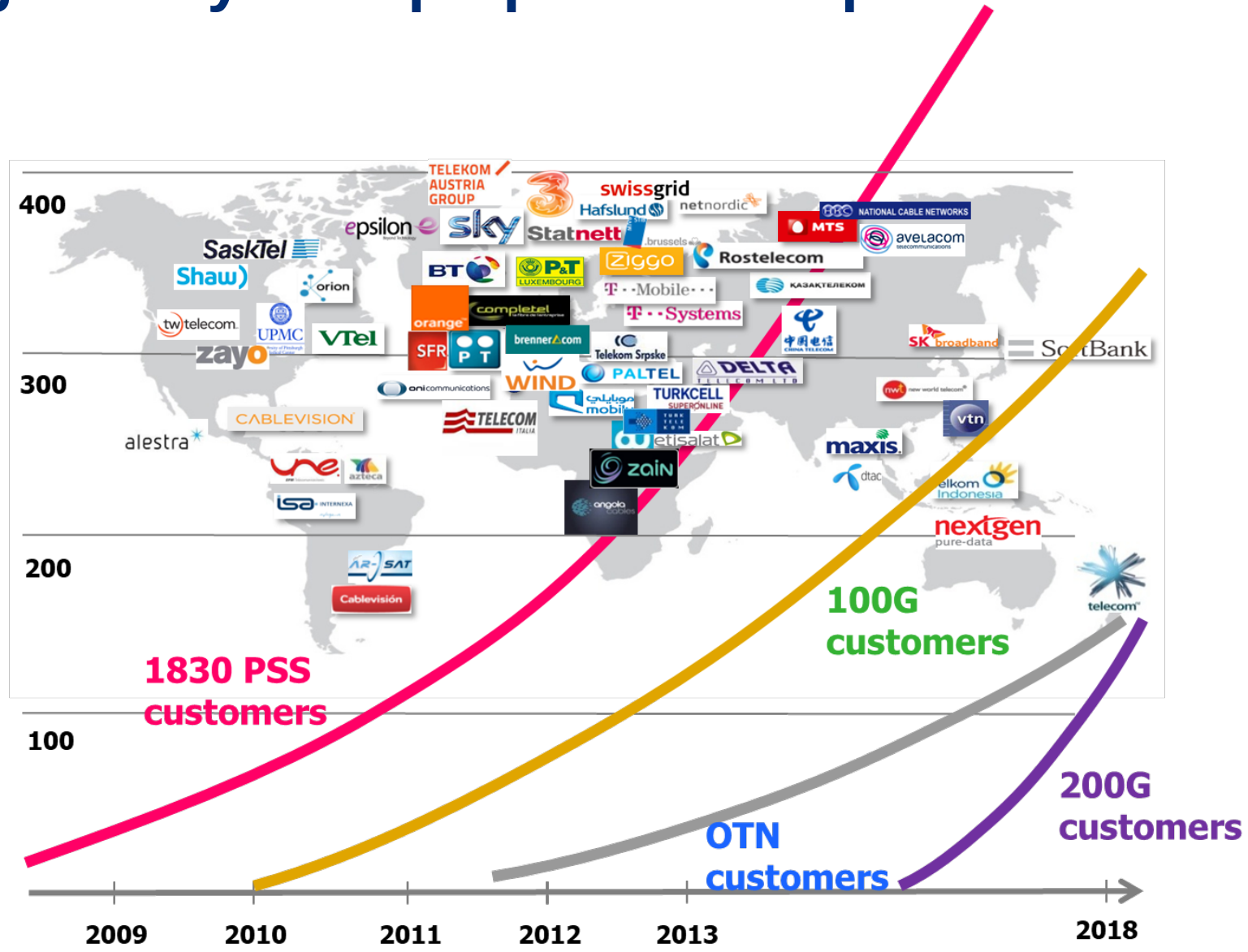
780+
1830 PSS Customers

70+ countries

101,000+
100G units at
340+ Customers

27,000+
200G units at
145+ Customers

150+
OTN deployments



Nokia Networks Contract 430-10427

Technology Infrastructure Modernization
Grant County PUD Common Backbone Network (GCB)

08/24/2021 **ORIGINAL**

Contract overview and supporting detail for selection of Nokia Networks

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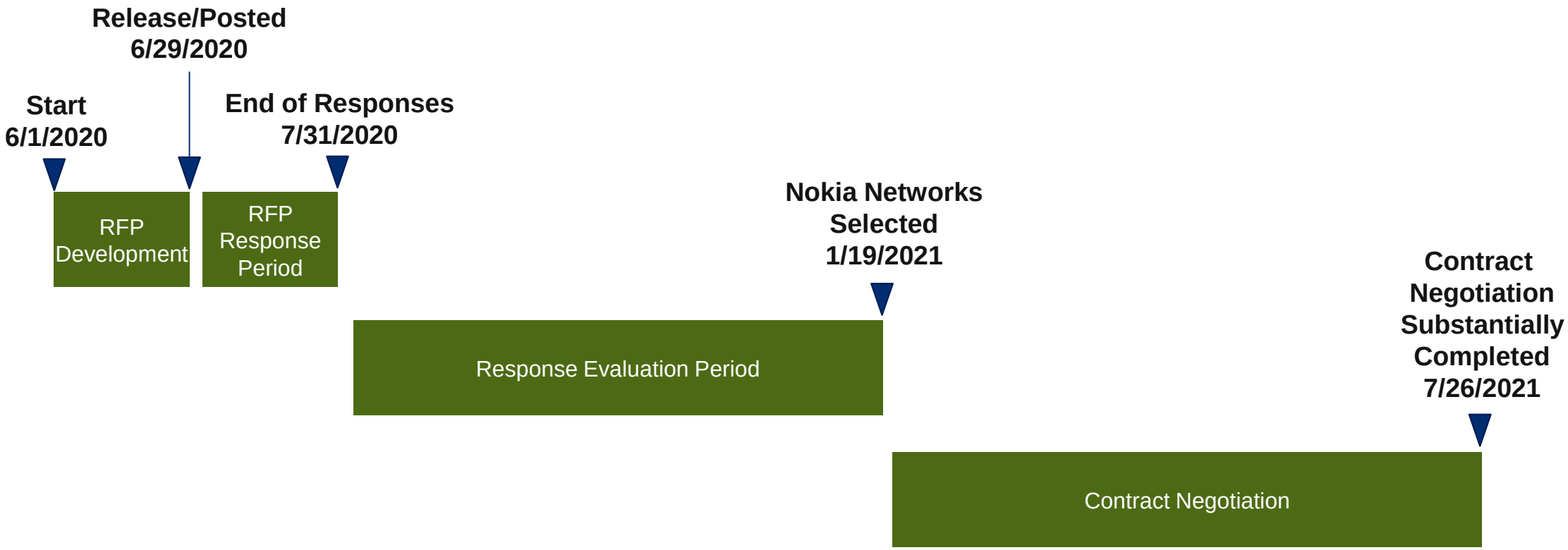
Selection and Contracting Timeline

The RFP development and response period was relatively short, following by an ***extensive*** evaluation period to fully understand the response details and implications. The contract negotiations that followed selection of Nokia Networks were equally challenging as risks and legal concerns by both parties were addressed.



Overview: RFP Finalist Summary*

Of the 15 respondents, many were resellers providing the equivalent hardware and similar approaches with identical scores. The 4 finalists below were selected after initial proposal reviews and detailed analysis for capabilities and cost effectiveness

Ultimately, Nokia separated itself from the group with high performing hardware, comprehensive management solution and ability to perform configuration and installation services. We ultimately determined that Grant PUD resources would be used for installation to remove insurance concerns and reduce risks.

Vendor	Hardware & Services	Score
Nokia	$3,561,027**	1640
LightRiver	$3,150,677	1580
GP&A	$3,707,234	1580
Lumen	$4,140,882	1580

* The full RFP Scoring Matrix is stored with other RFP documents on Contracts365.

** Dollar values subject to change during contract negotiation with refinement of scope and conditions.

Recommendation and Request

Management, following comprehensive review of respondents to our RFP and extensive negation, is requesting Commission approval to award materials and professional services contract 430-10427 to Nokia Networks, “Nokia of America Corporation” in the not to exceed contract amount of $3,779,436.62

- Total Cost $3,779,436.62
  - $2458k Hardware
  - $403k Implementation Services
  - $918k Support & Maintenance
- Implementation Schedule
  - Start September 14, 2021
  - End February 1, 2022
- Term
  - Equipment support provided through January 31, 2024

RFP Winner Selection Methodology

		Minimum Viable	First Cut		Second Cut			Finalist	
Vendor	Hardware+Svcs	Score	Excluded due to Price	Multiple Vendor	Implementation Experience	Manufacturer Experience (Optical & Routing)	Single Management Tool		Quality References
Ribbon	**$2,478,156.00**	1610	NO	NO	3	~~2~~	NO	NO	
CCI	**$2,595,250.00**	1640	YES (Unrealistic)	NO			NO	NO	
Core Telecom	**$3,026,930.00**	1610	NO	YES	3	~~2~~	NO	NO	
Nokia	**$3,150,438.00**	1640	NO	NO	5	5	YES	YES	YES
LightRiver	**$3,150,677.00**	1580	NO	NO	5	4	YES	YES	YES
Century Link	**$3,364,883.00**	1580	NO	NO	4	4	YES	YES	YES
Infinera	**$3,675,941.00**	1580	NO	NO	4	~~4~~	YES	NO	
GP&A	**$3,707,234.00**	1580	NO	NO	4	4	YES	YES	Manufacturer
Datec	**$4,294,000.00**	1640	YES	YES					
ePlus	**$4,392,658.00**	1640	YES	NO					
WWT	**$4,490,310.00**	1640	YES	NO					
Kovarus	**$4,584,252.00**	1640	YES	NO					
Telamon	**$4,603,104.00**	1580	YES	NO					
Ednetics	**$4,911,099.00**	1640	YES	NO					
Fujitsu	**$5,283,152.00**	1640	YES	YES					

- *All* respondents met the technical solution criteria for must have requirements
- First Round: Value decision made to eliminate all above $4M or multiple vendors
- Second Round: Reviewed detailed designs, tools and experience to select finalists
- Final Round: In depth review of solution and references, overall satisfaction with tools/features/cost

RFP Winner Selection Methodology

Initial Review

- All proposals were reviewed and scored against requirements to develop “proposal score”.

First Cut

- As all proposals met the solution requirements, pricing was used to reduce the field. $4M was considered the cut line, eliminating 7 of the respondents.
- Another respondent was eliminated due to missing components in their pricing and questions about the rationality of the proposed solution price.
- A final vendor was removed as they proposed a dual vendor solution partnership deemed challenging.

Second Cut

- Experience of the implementation partner and the vendor were reviewed in the context of the proposed design, hardware and management/monitoring tooling. Eliminating 4 more respondents.

Finalists

- Total solution, references, feature trade offs and cost were reconsidered with additional discussion with the vendors. Ciena and Nokia were the proposed hardware vendors among the 4 finalists.
- NOKIA selected as the winner

Variance: Contract Price vs Proposal

The original vendor responses to the RFP all provided viable solutions for the near-term growth in network traffic. The Nokia proposal provided 3 alternatives, including the selected option for an architecture that was much simpler to manage and operate with a lower level of required engineering overhead.

After initial review, Telecom Engineering identified opportunities to enable future growth without a second round of equipment replacement by utilizing a larger chassis (essentially buying a larger cabinet that could be expanded over time).

The largest factor in the change in price from proposal to contract, was duplication of the controller cards for added resiliency and future capacity handling. Essentially, we went from one (1) controller in each of 2 smaller boxes to ***dual*** controllers in each of 2 larger expandable boxes.

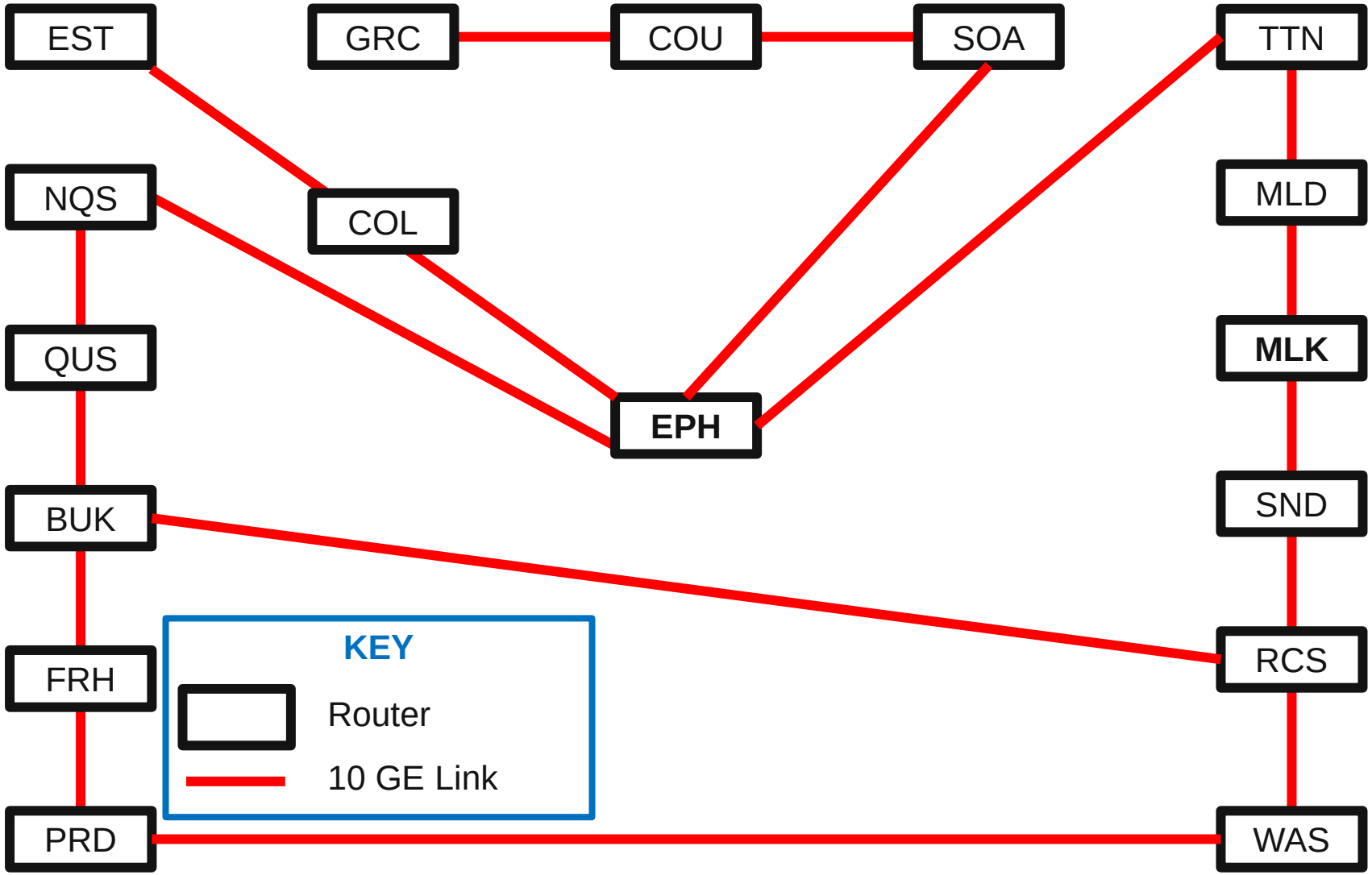
The controllers are the brains/engines of the network and the most expensive components.

Net of all changes to configuration and services, we ultimately added ***~$218k*** to the final contract value.

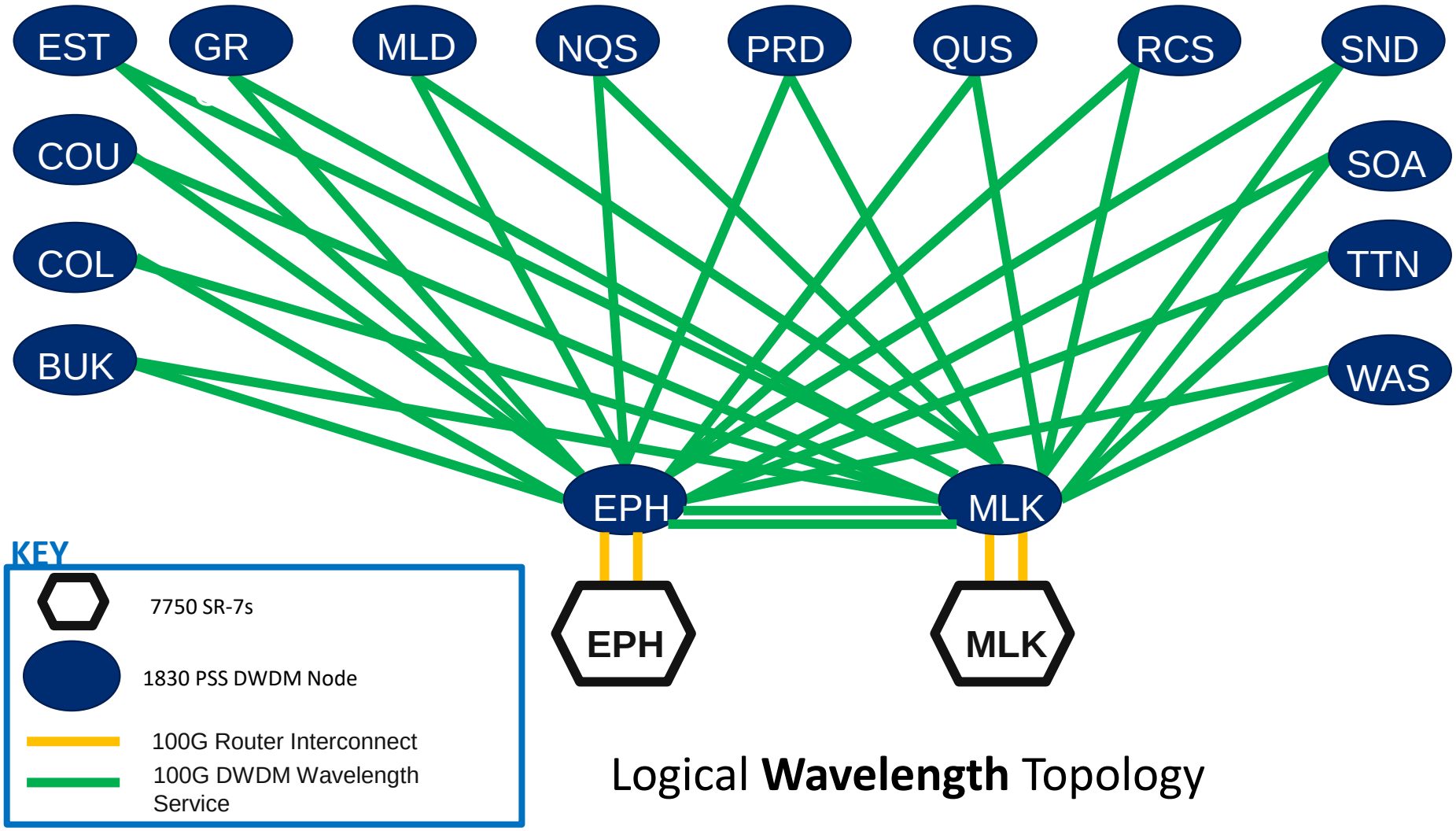
Note: The initial RFP responses were priced on ***proposed solutions***, not the ultimate final configuration.

Current State and Challenges

- The growth of internet-based applications is driving the need for massively scalable service provider networks
- Current network has exceeded its growth capacity
- Current network has grown over time in reaction to needs and is inefficient in its design, difficult to manage, and increasingly difficult to troubleshoot.



Future State and Benefits



Logical **Wavelength** Topology

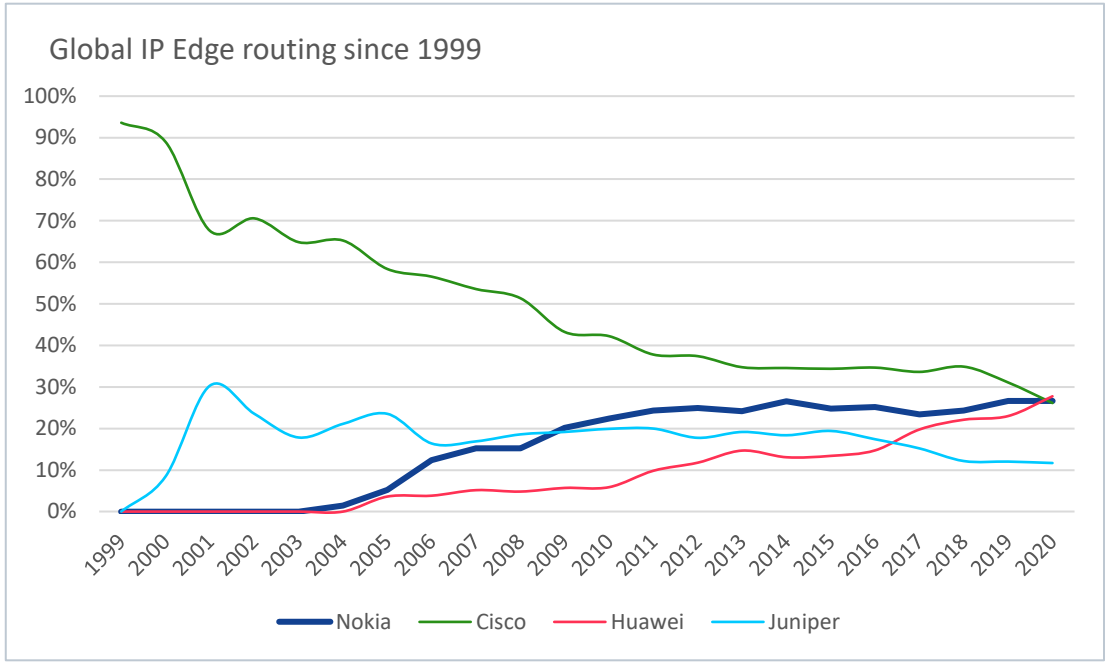
- Massive scalability increase with full resilient signal design providing improved reliability
- Centralized management suite for simplified control and change deployment with less manual work
- Hub and spoke design improves network performance, allows for targeted growth where needed, and simplifies operations
- Consistent design, efficient growth, and lower complexity

How will we achieve this network transformation?

- Nokia to create the configurations and preconfigure the optical equipment for GCPUD to install
- Nokia to create the configurations of the routers for GCPUD to install
- Nokia to remotely configure the Network Management systems
- Nokia to create and help execute a migration strategy to move GrantFiber hubs from the old network to the new network.
- Nokia to perform remote final testing to confirm successful migration and functionality of the network.

Nokia has long history of top performance

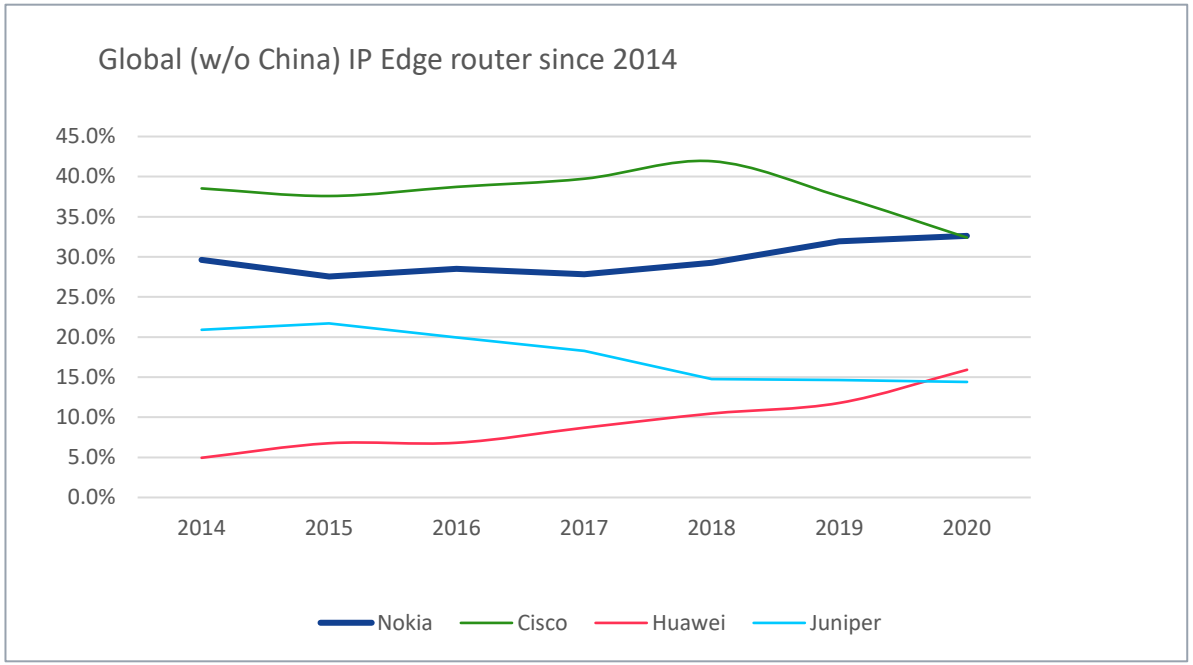
#2



Global edge router

Huawei	28%
Nokia	27%
Cisco	26%

#1



Global edge router minus China

Nokia	32.6%
Cisco	32.4%

NOKIA has long history as top optical transport manufacturer

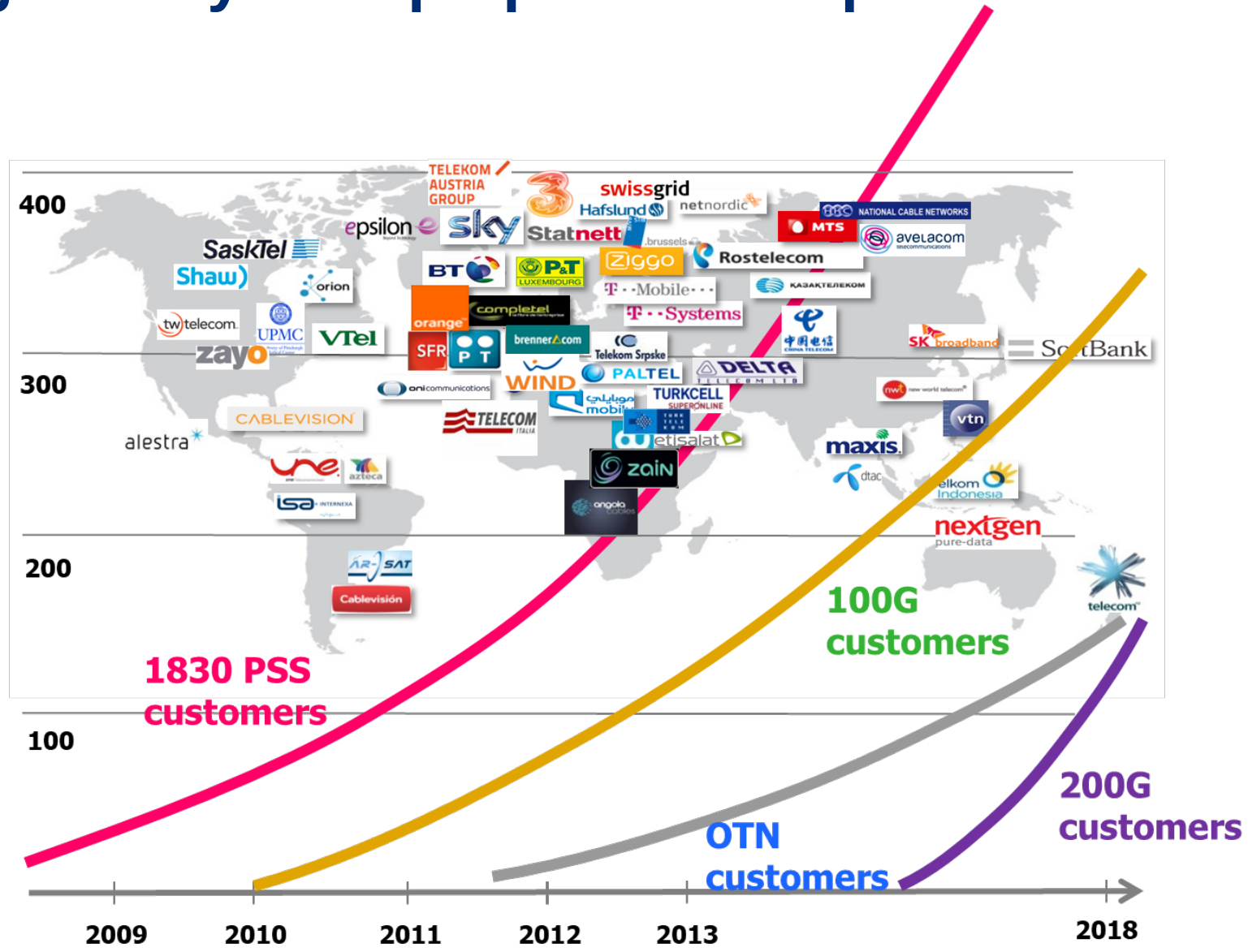
780+
1830 PSS Customers

70+ countries

101,000+
100G units at
340+ Customers

27,000+
200G units at
145+ Customers

150+
OTN deployments



This Agreement, effective upon full execution, is by and between Public Utility District No. 2 of Grant County, Washington ("District") and Nokia of America ("Contractor");

R e c i t a l s :

The District desires to obtain the design and supply of a Multiprotocol Label Switching (MPLS)/Dense Wavelength Division Multiplexing (DWDM) Wide Area Network (WAN) Solution; and

The Contractor shall provide all services, equipment, and supplies as listed in the proposal, and supervision required for the Multiprotocol Label Switching (MPLS)/Dense Wavelength Division Multiplexing (DWDM) Wide Area Network (WAN) Solution as requested in the District's Request for Proposals 430-10427 (RFP) issued June 29, 2020. Contractor shall provide the complete design and all equipment and supplies required for the installation (by others) of a fully functional system meeting all requirements as confirmed in Contractor's response to the District's RFP dated July 1, 2021; and

The Contractor, through an established review procedure as specified by RCW Chapter 39.04, has been selected and is willing to provide services on the terms and conditions hereinafter stated.

NOW, THEREFORE, in consideration of the mutual covenants herein, the parties hereto agree as follows:

GENERAL CONDITIONS

GC-1. FORM OF CONTRACT

The form of the Contract shall be lump sum type.

GC-2. DEFINITIONS

Whenever these words occur in the Contract Documents, they shall have the following meanings:

"ACCEPTANCE" – Per the mutually agreed acceptance and testing plan.

"CONTRACT AWARD" - Contract Award is defined as the date the successful Contractor is first notified in writing that the District's Board of Commissioners has adopted a resolution awarding the Contract.

"CONTRACT DOCUMENTS" - The Contract Documents shall include this Agreement and Exhibits "A.1", "A.2", "A.3", "B", "C", "D", "E", "F", "G", "H", "I", "J" and "K".

"CONTRACT PRICE" - The total price specified in the Contract Award and any properly approved Change Orders approved subsequent to Contract Award.

"CONTRACTOR" - The Contractor who is awarded the Contract to perform the work covered by these Contract Documents.

"DISTRICT" OR "OWNER" - Public Utility District No. 2 of Grant County, Washington.

"DISTRICT REPRESENTATIVE" - The employee designated by the District as its representative during the progress of the work.

"FINAL ACCEPTANCE" - Acceptance of the work by the District in writing. Final Acceptance shall not constitute an acceptance by the District of any work performed or goods supplied which are not in strict compliance with the Contract Documents.

"MILESTONE" - The Contract performance Milestones listed in Section SR-2, which Milestones are listed sequentially in the order in which performance is anticipated to be completed.

"PROPOSAL" - The written proposal submitted by the Contractor in response to the District's RFP 430-10427.

"SUBCONTRACTOR" - A contractor hired by the Contractor to perform a portion of the work covered by these Contract Documents.

GC-3. SUSPENSION OF WORK/TERMINATION OTHER THAN FOR DEFAULT

The District may, due to loss of funding or other Force Majeure events, by notice in writing to the Contractor suspend or terminate at any time the performance of all or any portion of work to be performed under the Contract. Upon such notice of suspension or termination of work, the District shall designate the amount and type of services and equipment to be committed during the period of suspension or termination. The Contractor shall use its best efforts to utilize its resources and equipment in such a manner as to minimize costs associated with suspension or termination.

A. Upon receipt of any such notice, the Contractor shall:

1. Immediately discontinue work as specified in the notice;
2. Place no further orders or subcontracts for material, services, or equipment with respect to suspended or terminated work;
3. Promptly suspend or terminate all orders, subcontracts, and rental agreements to the extent they relate to performance of work suspended or terminated;
4. Assist District Representative or District in the maintenance, protection, and disposition of work in progress, equipment property, and materials acquired by Contractor or furnished by Contractor under this Contract; and
5. Complete performance of the work which is not terminated.

B. As full compensation for such suspension the Contractor shall be reimbursed for the following costs, reasonably incurred, without duplication of any item, to the extent that such costs directly result from such suspension of work:

1. A standby charge, negotiated between the parties, to be paid to the Contractor during a period of suspension of work sufficient to compensate the Contractor for keeping, to the extent required in the notice, its organization and equipment committed to the work in a standby status;
2. Any claim on the part of the Contractor for additional time or compensation shall be made within 10 days after receipt, by Contractor, of a notice to suspend work; and
3. In no event shall the amount to be paid the Contractor pursuant to this section exceed the Contract Price.

C. Upon receipt of notice to resume suspended work, the Contractor shall immediately resume performance of the suspended work to the extent required in the notice. Any claim on the

part of the Contractor for time or compensation shall be made within 30 days after receipt of notice to resume work and the Contractor shall submit a revised project schedule for review.

D. Upon delivery of a written notice to the Contractor, the District may, without cause and without prejudice to any other right or remedy, elect to terminate the Contract. Upon receipt of any such notice, the Contractor shall take all appropriate steps in part A of this Section GC-3.

Upon any such termination, Contractor shall waive any claims for damages including Contractor's overhead, loss of anticipated profits, and all other inconvenience, expenses, damages, costs and lost profits whatsoever.

If such termination is affected after Contract Award but prior to the District issuing Notice to Proceed to the Contractor, the District shall pay the reasonable, verifiable and directly attributable costs incurred by the Contractor in the preparation of their Proposal plus 15% of such costs. If such termination is effected after the District has issued Notice to Proceed and the Contractor has commenced performance hereunder, the District shall pay the reasonable, verifiable and directly attributable costs incurred by the Contractor as determined by the progress of the work satisfactorily completed to date plus 10% of the sum of all such costs; provided, said payment shall not in any event exceed the Contract Price hereunder. The payment of the District shall constitute full and complete satisfaction and settlement for the Contractor's overhead, anticipated profits, and all other inconvenience, expenses, damages, costs and lost profits whatsoever. The Contractor shall be entitled to no further payments whatsoever for the work. Amounts retained and accumulated under RCW Chapter 60.28 shall be held and disbursed as provided therein.

Contractor shall submit within 30 days after receipt of notice of termination, a request for adjustment to the Contract Price in accordance with the above provisions. District Representative shall review, analyze, and verify such request, and upon District Representative's approval, the Contract shall be amended in writing accordingly.

Those provisions of the Contract that by their nature survive Final Acceptance under the Contract shall remain in full force and effect after such termination.

GC-4. TERMINATION FOR DEFAULT/NONCOMPLIANCE

A. Acts of Default

If Contractor fails in any material way to comply with any of the conditions or provisions of the Contract Documents or is unable to pay its debts as they mature or authorizes or takes any action under bankruptcy or reorganization, readjustment of debt, insolvency, liquidation or other similar laws or proceedings it shall be considered an act of default.

B. Consequences of Default

In the event of default, the District may immediately, without limiting any other remedy available to it in law or equity, withhold disputed amount otherwise due under the Contract. The District shall provide written notice of default. In the event the default can be cured, and Contractor fails to correct the default within 30 days after written notice of default, the District may terminate the Contractor's right to proceed with all or any portion of the work.

C. Noncompliance

The Contractor shall, upon receipt of written notice of noncompliance with any provision of this Contract and the action to be taken, immediately correct the conditions to which attention has been directed. Such notice, when served on the Contractor or its representative, shall be deemed sufficient. If the Contractor fails or refuses to comply promptly, the District Representative may issue an order to suspend all or any part of the work. When satisfactory corrective action is taken, an order to resume work shall be issued.

GC-5. ASSIGNMENT

The Contractor shall not assign this Contract or any interest in or part thereof, or any monies due or to become due hereunder, without the prior written approval of the District.

GC-6. INDEMNITY

A. Subject to the conditions and exceptions stated below, Contractor: (a) shall defend the District against any claim, action or proceeding brought against the District by reason of any act, omission, misconduct, negligence or default on the part of Contractor, or alleging an infringement or misappropriation of any United States patent, copyright, trade secret or other intellectual property right of any third party (other than an affiliate of the District) because of use, consistent with Contractor's specifications, of any Equipment manufactured by Contractor or Software owned by Contractor (a "Claim") and provided to the District under this Agreement; and (b) shall indemnify the District against, and hold the District harmless from, any and all costs and damages assessed against the District in a final judgment on such Claim, if: (i) District gives Contractor prompt written notice of the Claim, (ii) District grants to Contractor the sole authority to assume the defense, and the sole right to settle the Claim, through counsel chosen by Contractor, and (iii) District furnishes all information and assistance requested by Contractor and reasonably cooperates with Contractor to facilitate the defense and settlement of the Claim.

B. If District's use of any Product is enjoined as a result of any Claim, is subject to a Claim, or in Contractor's opinion is likely to be enjoined or to be subject to a Claim, then, at its expense, Contractor may: (a) procure for the District the right to continue to use the Product; or (b) replace or modify the Product with a functionally-equivalent or better Product so that District's use is not subject to a Claim. If Contractor determines that it cannot accomplish either of the foregoing in a commercially reasonable manner, then, upon Contractor's request, (c) District shall deliver the Product to Contractor, and (d) Contractor shall promptly credit to District the Price of the Product less a reasonable allowance for use.

C. Contractor has no obligations under this Section with respect to a Claim to the extent that it: (a) arises from adherence to design modifications, specifications, drawings or written instructions which District directs Contractor to follow, (b) relates to uses of any Product in combination with any item not provided directly by Contractor, if use of the Product alone would not have resulted in such infringement, (c) relates to the use of any Product in a manner not contemplated by this Agreement, or (d) relates to a modification of any Product by any person other than Contractor. Furthermore, the District shall defend Contractor against any such Claim, and indemnify Contractor against, and hold Contractor harmless from, any and all costs and damages incurred by Contractor arising from any such Claim. The rights and remedies set forth in this Section are District's exclusive rights and remedies with respect to third party claims of infringement and misappropriation.

D. Contractor and District acknowledge that they have negotiated the Price (among other things) in consideration of their agreement to limit certain of Contractor's liabilities. In no event will Contractor or any of its suppliers or licensors be liable for any indirect, special, exemplary, consequential or incidental damages (including lost profits, lost revenues, lost data and other economic losses), however caused and regardless of whether such damages are foreseeable or whether Contractor has been advised of their possibility.

E. Except for a claim for personal injury proximately caused by Contractor, Contractor's liability for any claim arising out of this Agreement will be limited to actual, provable direct damages not to exceed the Price of the Product or Service that is the subject of such claim. IN NO EVENT WILL CONTRACTOR'S CUMULATIVE LIABILITY FOR ALL CLAIMS, LOSSES, DAMAGES AND EXPENSES OF THE DISTRICT ARISING OUT OF OR RELATED TO THIS AGREEMENT EXCEED FIFTY PERCENT OF THE TOTAL PRICE ACTUALLY PAID BY DISTRICT TO CONTRACTOR UNDER THIS AGREEMENT.

F. Contractor acknowledges that by entering into a contract with the District, Contractor has mutually negotiated the above indemnity provisions with the District. Contractor's indemnity and defense obligations shall survive the termination or completion of the Contract and remain in full force and effect until satisfied in full.

GC-7. APPLICABLE LAW

All written instruments, agreements, specifications and other writing of whatsoever nature which relate to or are a part of this Contract shall be construed, for all purposes, solely and exclusively in accordance and pursuant to the laws of the State of Washington. The rights and obligations of the District and Contractor shall be governed by the laws of the State of Washington. Any disputes over the terms of this agreement shall be resolved by Dispute Resolution as provided in GC-29 below. Venue of any action filed to enforce or interpret the provisions of GC-29 shall be exclusively in the Superior Court, County of Grant, State of Washington or the Federal District Court for the Eastern District of Washington. In the event of litigation to enforce the provisions of this Contract, the prevailing party shall be entitled to reasonable legal fees in addition to any other relief allowed.

GC-8. DAMAGES

Any claims arising under the Contract by the Contractor shall be made in writing to the District Representative no later than 30 days after the identification of the event or occurrence giving rise to the claim. Failure to make written claim prior to the time specified in the Contract Documents shall constitute waiver of any such claim. No further claims will be accepted following completion of the contract.

GC-9. INDEPENDENT CONTRACTOR, SUPERINTENDENT, AND EMPLOYEES

It is understood and agreed that in all work covered by the Contract, the Contractor shall act as an independent contractor, maintaining complete control over its employees and all of its Subcontractors. The Contractor shall perform the work in accordance with its own methods, subject to compliance with the Contract.

The Contractor shall designate in writing before starting work competent, authorized representative(s) who shall be authorized to represent and act for the Contractor in all matters relating to the Contract. The Contractor's letter designating representative(s) shall clearly define the scope of their authority

to act for the Contractor and define any limitations of this authority. All directions given to the authorized representative(s) by the District shall be binding as if given to the Contractor.

The Contractor and its Subcontractors shall employ only orderly workers. Employees deemed by the District to be incompetent, subversive, or disorderly shall be removed from the performance of the work, and such removal shall not form the basis of any claim for compensation or damage upon the District.

GC-10. CORRECTION OF WORK/WARRANTY

A. Contractor warrants to District that for the warranty period defined in Subsection GC-10.B below: (a) Equipment and Software media manufactured by Contractor (including those manufactured for Contractor by a contract manufacturer and based on Contractor's procurement specification) and purchased hereunder will, under normal use and service, be free from defects in material and workmanship; (b) Equipment manufactured by Contractor or Software owned by Contractor and purchased or licensed hereunder will materially conform to Contractor's specifications in effect on the date of shipment; and (c) Services purchased hereunder will be performed in accordance with Contractor's written standards, or in the absence of such standards, in a professional and workmanlike manner. However, Contractor makes no warranty that any Software will operate uninterrupted or error free. For Products or partial assembly of Products furnished by Contractor where the Equipment and Software media was not manufactured by Contractor and/or the Software is not owned by Contractor, Contractor hereby assigns, to the extent permitted, the warranties given to Contractor by its suppliers or licensors of such items.

B. The warranty period for Contractor Equipment is 12 months and for the Software is 90 days, and begins on the shipment date. The warranty period for Services is 30 days, beginning on the date of completion.

C. If any Equipment is not as warranted in this Section GC-10, then (a) District must obtain from Contractor a return authorization number and properly pack and return the equipment at its expense, together with the authorization number and a detailed description of the problem, to Contractor's designated repair facility; and (b) Contractor shall repair or replace the equipment and return it at Contractor's expense to District's point of shipment. District has the risk of loss and damage to any equipment returned to Contractor for repair or replacement until receipt by Contractor of such equipment. Contractor shall assume the risk of loss and damage to any equipment returned to Contractor for repair or replacement from receipt until delivery to District's point of shipment. For any equipment or parts thereof repaired or replaced under this Section GC-10, the warranty period applicable to the equipment will continue for the longer of (a) the remainder of the original warranty period or (b) 90 days after shipment date of the repaired or replaced Equipment.

D. Upon notice from District that any software is not as warranted in this Section GC-10, Contractor shall correct the software by (a) electronic means or (b) delivery to District of suitable media chosen solely by Contractor. The warranty period for the corrected Software via fixes and/or patches will be the remainder of the original warranty period.

E. Upon notice from District that any service is not as warranted in this Section GC-10, Contractor shall correct the service. The warranty period for the corrected service will be the remainder of the original warranty period.

F. If Contractor determines that it cannot, in a commercially reasonable manner: (a) repair or replace any equipment, (b) correct any software, or (c) correct any services, then Contractor may, as credit to District the Price of the product or services, less a reasonable adjustment negotiated by the parties for beneficial use. In repairing or replacing any equipment, part of equipment, or software medium under this warranty, Contractor may use new, but if new is unavailable may use remanufactured, reconditioned, refurbished, or functionally equivalent equipment, parts of equipment, or software medium.

G. Notwithstanding any provision of this Agreement to the contrary, Contractor has no obligation to repair or replace any equipment, correct any software, or correct any services if (a) the Product has been modified, repaired or reworked by anyone other than Contractor; or (b) the defect is the result of (i) any improper storage, handling or use by anyone other than Contractor, (ii) failure to provide a suitable climatic and/or operational environment (including, by way of example, failure to provide the facilities prescribed in Contractor's specifications, failure to provide for adequate control of humidity or failure to prevent the ingress of dust particles), (iii) operator error, (iv) improper installation of the product by anyone other than Contractor, (v) use in a manner not in accordance with the Documentation, (vi) failure to implement any new releases or updates to the software, (vii) any use of the product in conjunction with another non-Contractor product (except to the extent provided in the Documentation), (viii) consumable items, including fuses, light bulbs, motor brushes and the like, (ix) products which have had their serial numbers or month and year of manufacture removed, altered, defaced, or deleted, or (x) any damage by power failure, fire, explosion or any act of God or other cause beyond Contractor's control. The warranties set forth in this Section GC-10 are nontransferable.

H. If Contractor determines that any returned equipment or software is not defective, District shall pay Contractor's costs of handling, inspecting, testing, and transportation and, if applicable, travel and living expenses.

I. Warranty does not include: Contractor assisting in diagnostic efforts; access to Contractor's technical support web sites, databases, or tools; product integration; on-site assistance; or documentation updates. These services may be available during and after the warranty period at Contractor's published prices.

J. THE LIMITED WARRANTY SET FORTH IN THIS SECTION FOR PRODUCTS AND SERVICES IS THE EXCLUSIVE WARRANTY. CONTRACTOR DISCLAIMS ALL OTHER WARRANTIES, REPRESENTATIONS AND/OR CONDITIONS, IMPLIED OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND/OR NON-INFRINGEMENT. THE REMEDIES PROVIDED UNDER SECTIONS THIS SECTION GC-10 ARE DISTRICT'S EXCLUSIVE REMEDIES FOR FAILURE OF PRODUCTS OR SERVICES TO CONFORM TO THE WARRANTY.

GC-11. CHANGES IN WORK

Without invalidating the Contract, the District may make changes by altering, adding or deducting from the work, and/or make changes in the drawings and specifications requiring changes in the work and/or materials and equipment to be furnished under this Contract; provided such additions, deductions or changes are within the general scope of the Contract. Except as provided herein, no official, employee, agent or representative of the District is authorized to approve any change in this Contract and it shall be the responsibility of the Contractor before proceeding with any change, to

satisfy itself that the execution of the written Change Order has been properly authorized on behalf of the District. The District's management has limited authority to approve Change Orders. The current level and limitations of such authority are set forth in District Resolution No. 8609 which may be amended from time to time. Otherwise, only the District's Board of Commissioners may approve changes to this Contract.

Charges or credits for the work covered by the approved changes shall be determined by one or more, or a combination of the following methods, at the District's option:

A. Unit prices specified in the Contractor's Proposal, if any.

B. An agreed lump sum. When requested, Contractor shall provide a detailed proposal for evaluation by the District, including, as applicable:

1. Detailed proposed labor categories, hours, and rates.
2. Specific materials and quantities.
3. Equipment and equipment hours.

C. Actual Cost

1. Labor, including foreman, only for employees who will work directly on the work covered by the Change Order.
2. Payroll taxes and fringe benefits.
3. Materials entering permanently into the work.
4. The ownership or rental cost of plant and equipment during the time of use on the project.
5. Power and consumable supplies for the operation of power equipment.
6. Insurance and bonding.
7. The Contractor may include a fixed fee (overhead plus profit) not to exceed 15% to the sum of Items 1 through 6. This fixed fee shall include:
    a. Reproduction and printing costs including electronic media.
    b. Communication costs including all phones, faxes, Internet, postage, shipping, delivery, couriers.
    c. Computer software, printers, scanners, office machines and related costs of operation including consumables.
    d. Indirect and overhead burden.
    e. Profit.
8. For any work performed by a Subcontractor, the Contractor's fixed fee is limited to 6%. Items 1 through 7 also apply to the Subcontractor.

When a change is ordered by the District, as provided herein, a Change Order shall be executed by the District and the Contractor before any Change Order work is performed. The District shall not be liable for any payment to Contractor, or claims arising therefrom, for Change Order work which is not first authorized in writing as set forth in this section. All terms and conditions contained in the Contract Documents shall be applicable to Change Order work. Change Orders shall be issued on

the form attached as Exhibit "C" and shall specify any change in time required for completion of the work caused by the Change Order and, to the extent applicable, the amount of any increase or decrease in the Contract Price.

The District Representative may instruct the Contractor to make minor changes in the work where such changes are not inconsistent with the purposes of the Contract, do not involve any additional cost and shall not require an extension of the Contract completion date. The Contractor shall make no such changes without receipt of a District Instruction, Exhibit "D", setting forth the changes to be made. Contractor's compliance therewith shall constitute its acknowledgment that such changes shall not result in any claim for additional payment or extension of the Contract completion date. District Instructions, when issued, shall be in writing and signed by the District Representative.

If the Contractor believes the instruction shall result in additional costs or time extensions, Contractor shall promptly notify the District of the same and not proceed with the changes. Contractor shall provide a cost and schedule proposal per District Instruction Item 3 or independently provide an alternative for consideration by the District Representative by submitting a Contractor Change Order Proposal, Exhibit "E".

No waiver of any provision of the Contract, and no consent to departure there from, by either party, shall be effective unless in writing and signed by the waiving or consenting party, and no such waiver or consent shall extend beyond the particular case and purpose involved.

If Contractor believes that any requirement, direction, instruction, interpretation, determination, or decision of the District described in a mutually agreed Change Order entitles Contractor to an adjustment in the Contract Price or time for performance and Contractor refuses to execute the Change Order, then Contractor shall submit a claim as provided in Section GC-8 of this Contract. Notwithstanding the submission of any such claim, Contractor shall proceed without delay to perform the work described in the Change Order.

GC-12. PAYMENT/RETAINAGE

Contractor may submit an invoice for approval and payment by the District for each Milestone satisfactorily completed. Payment shall be made in accordance with the prices specified in the Milestone table below. The invoice shall itemize the completed work including shipping costs by reference to the completed Milestone. The District Representative shall make the determination of satisfactory completion for payment purposes that is consistent with the Contract Documents. The District will make payment to Contractor within 30 days after District's receipt and approval of said invoice.

In no event however, shall the total amount paid to Contractor for services exceed the sum of $3,779,436.62 USD unless a Change Order authorizing the same is issued in accordance with Section GC-11 above.

Milestone Payment No.	Description	Pricing
1	Equipment/Software Delivery Phase 1	$2,519,813.17
2	Year 1 Maintenance Services for Phase 1 Equipment and Software	$224,007.87

Milestone Payment No.	Description	Pricing
3	Services Completion and District Acceptance of - Turn-Up of Phase 1 Equipment	$206,639.63
4	Equipment Delivery Phase 2	$426,757.24
5	Services Completion and District Acceptance of - Turn-Up of Phase 2 Equipment	$51,731.38
6	Year 2 Maintenance Services for Phase 1 Equipment and Software and all Phase 2 Equipment and Software (pro-rate to end of Contract term).	$350,487.33
	TOTAL NOT TO EXCEED CONTRACT PRICE	**$3,779,436.62**

Invoices shall include the Contract number 430-10427, the Milestone payment number, and Milestone Payment Description. Invoices shall be addressed as follows:

Public Utility District No. 2
of Grant County, Washington
Attn: Accounts Payable
PO Box 878
Ephrata, WA 98823

Phone: (509) 793-1450
E-mail: AccountsPayable@gcpud.org

The following two paragraphs apply only to custom fabricated material manufactured in the State of Washington: The District shall withhold the sum of 1% of the amount of each Milestone payment to the Contractor as retainage in accordance with RCW Chapter 60.28 of the Revised Code of the State of Washington.

If the District is requested in writing by the Contractor, the monies reserved hereunder (retainage) shall be placed in escrow with a mutually agreed upon bank or trust company by the District and interest on such escrowed funds shall be paid to the Contractor as said interest accrues, all as more fully provided in RCW Chapter 60.28. However, any payments made to the Contractor hereunder shall not relieve the Contractor from responsibility under provision of the Contract and warranties. Payment is not to be construed as acceptance by District or certification that the Contractor has performed the work correctly or according to Contract Documents.

GC-13. PAYMENTS WITHHELD

In addition to the above percentage retained, if, any, the District may withhold the whole or part of any payment to such extent as may be reasonably necessary to protect itself from loss on account of:

A. Defective or damaged work not remedied, or warranties not met.

B. Claims filed or reasonable evidence indicating filing of claims against the Contractor.

C. Failure of the Contractor to make payments properly to Subcontractors or for materials, labor, or equipment.

D. Damage to another Contractor.

E. Contractor's failure to meet any performance warranties required by the Contract Documents.

The Contractor shall provide a contact name, address, and email address to facilitate notification if any payment, or portion of any payment, is withheld for any of the reasons above, or for missing documentation or items incorrectly invoiced. Notification shall be made via email, or shall be mailed, properly addressed and stamped with the required postage to the person designated by the Contractor.

GC-14. ACCEPTANCE AND FINAL PAYMENT

This Section applies only to custom fabricated material manufactured in the State of Washington. When the Contractor has completed all work in accordance with the terms of the Contract Documents, the Contractor shall properly execute and submit final invoice to Accounts Payable. Once final invoice has been processed, the District's Procurement Department will issue the Certificate of Completion and Release to be executed by the Contractor and returned to the Procurement Officer. The Certificate of Completion and Release shall constitute a waiver of all claims by the Contractor except for unsettled claims specifically stated, if any.

The Certificate of Completion and Release shall warrant that the Contractor has fully completed its work included in the Contract and has fully paid for labor, materials, equipment, services, taxes and all other costs and expenses. If any dispute exists between the Contractor and any person, firm or corporation to which the Contractor might be obligated in connection with this Contract, the Contractor shall state the name of claimant and amount and general nature of claim against the Contractor. The Certificate of Completion and Release shall state the amount and nature of all present and future claims that the Contractor may have against the District relative to this Contract. The Contract work shall not be complete until after the Contractor has returned to the Procurement Officer a properly completed Certificate of Completion and Release.

Upon receipt of Certificate of Completion and Release by the Procurement Officer, the District Representative provides a recommendation relative to Final Acceptance. The District shall, within a reasonable time, take action on Final Acceptance. Such action shall be subject to the condition of the Payment and Performance Bond, legal rights of the District, required warranties, and correction of faulty work discovered after final payment-. The District shall have the right to retain from any payment then due the Contractor, so long as any bills or claims- remain unsettled and outstanding, a sum sufficient, in the opinion of the District-, to provide for the payment of the same. It is also understood and agreed that, in the case of any breach or damage by the Contractor of the provisions hereof, the District may retain from any payment or payments a sufficient sum in the opinion of the District which may become due under any obligation of the District.

Sixty days after Final Acceptance, retainage may be released to the Contractor; provided, however, that there are no claims filed of materialmen or laborers and that the District has received the certificate of the Washington State Department of Revenue of payment in full of all taxes, Employment Security Department release, the approved Washington State Department of Labor and Industries Certificate of Release of the State's Lien on Public Works Contracts form and the approved affidavit showing payment of prevailing wages for the Contractor and any Subcontractors. If any liens remain unsatisfied from the retainage, the Contractor shall refund to the District such amounts as the District may have been compelled to pay in discharging such liens including all costs and reasonable legal fees.

GC-15. DISTRICT REPRESENTATIVE'S STATUS, AUTHORITY AND PROTEST PROCEDURE

The District Representative shall represent the District. The District Representative has authority to stop the work whenever such stoppage may be necessary to ensure the proper execution of the Contract. District Representative shall also have authority to reject all work, equipment, and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

Approval by the District Representative signifies favorable opinion and qualified consent. It does not carry with it certification, assurance of completeness, assurance of quality, nor assurance of accuracy concerning details, dimensions, and quantities. It is not an acceptance by the District or certification that Contractor has performed the Contract work correctly or according to Contract Documents. after the District Representative notifies the Contractor of such determination or instruction. The protest shall be forwarded by the District Representative to the District's General Manager, who shall issue a decision upon each such protest. If Contractor disagrees with this decision, it shall seek resolution per GC-29 as necessary, and its decision shall be final. Pending such decision, the Contractor, if required by the District Representative, shall proceed with the work in accordance with the determination or instructions of the District Representative, or seek resolution per GC-29 as necessary.

The District Representative may appoint assistants and inspectors to assist in determining that the work performed, and materials furnished comply with Contract requirements. Such assistants and inspectors shall have authority to reject defective material and suspend any work that is being done improperly, subject to the final decisions of the District Representative, or to exercise such additional authority as may be delegated to them by the District Representative. All work done and all materials furnished shall be subject to inspections by the District Representative or inspector at all times during the work.

The District Representative and contact information for this Contract is listed below.

David Parkhurst
Public Utility District No. 2
of Grant County, Washington
PO Box 878
Ephrata, WA 98823
(509) 754-0500, ext. 2230
dparkhurst@gcpud.org

GC-16. COOPERATION WITH OTHERS

There may be other contractors or forces of the District working the same area where work under this Contract shall be performed. The Contractor shall fully cooperate with such other contractors and the District's employees and carefully fit their work with the other work consistent with orderly and expeditious performance and completion of the project as a whole.

GC-17. WAGES PAID BY THE CONTRACTOR

This Section applies only to custom fabricated material manufactured in the State of Washington. Contractor and its Subcontractors shall comply with all provisions of RCW Chapter 39.12 and Section 2.5 of the Collective Bargaining Agreement (hereinafter referred to as Section 2.5) between the District and IBEW Local No. 77. A copy of Section 2.5 is attached hereto as Exhibit

"G". Contractor and its Subcontractors shall pay all laborers, workmen, or mechanics employed by it or them in the performance of this Contract the greater of: (1) the applicable state prevailing wage rate required by (RCW Chapter 39.12); or (2) the applicable wage rate required by Section 2.5. In the event the applicable wage rate(s) required to be paid by the Contractor or its Subcontractors change during the performance of this Contract, Contractor and its Subcontractors shall make any required adjustment so as to fully comply with any applicable state prevailing wage rate law (RCW Chapter 39.12) and Section 2.5. Notwithstanding the foregoing, the District shall not be required to make any adjustment in the Contract Price as a result of changes in either the state prevailing wage rate law or Section 2.5, except as provided in WAC 296-127-023.

Prior to any payments being made to Contractor, the Contractor and each and every Subcontractor of the Contractor or a Subcontractor shall file a "Statement of Intent to Pay Prevailing Wages" which has been approved by the Department of Labor and Industries as required by RCW 39.12.040.

Washington State hourly prevailing wage rates are located at: http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates/default.asp. It shall be the Contractor's responsibility to determine the locality of the work and to confirm with the Washington State Department of Labor and Industries, prior to the Proposal due date, that the appropriate classification of work and most current version of the prevailing wage rates are utilized in the preparation of the Contractor's Proposal.

GC-18. INSURANCE

A. Prior to the commencement of any work under this Contract, and at all times during the term of this Contract, Contractor shall obtain and maintain continuously, at its own expense a policy, or policies of insurance with insurance companies rated A- VII or better by A.M. Best, as enumerated below. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor and not recoverable under any part of this Contract.

Contractor Required Insurance

1. **General Liability Insurance:** Commercial general liability insurance, covering all operations by or on behalf of Contractor against claims for bodily injury (including death) and property damage (including loss of use). Such insurance shall provide coverage for:

   a. Premises and Operations;

   b. Products and Completed Operations;

   c. Contractual Liability;

   d. Personal Injury; and

   e. Such insurance shall not exclude coverage for action-over liability claims.

   with the following **limits not less than:**

   f. $1,000,000 Each Occurrence

   g. $1,000,000 Personal Injury Liability

   h. $2,000,000 General Aggregate

   i. $2,000,000 Products and Completed Operations Aggregate

Commercial general liability insurance will include the District as additional insured on a primary and non-contributory basis for ongoing and completed operations. A waiver of subrogation will apply in favor of the District.

2. **Workers' Compensation** and **Stop Gap Employers Liability**: Workers' Compensation Insurance as required by law for all employees. Employer's Liability Insurance, including Occupational Disease coverage, in the amount of **$1,000,000 for Each Accident, Each Employee, and Policy Limit**. The Contractor expressly agrees to comply with all provisions of the Workers' Compensation Laws of the states or countries where the work is being performed, including the provisions of Title 51 of the Revised Code of Washington for all work occurring in the State of Washington.

   If there is an exposure of injury or illness under the U.S. Longshore and Harbor Workers (USL&H) Act, Jones Act, or under U.S. laws, regulations or statutes applicable to maritime employees, coverage shall be included for such injuries or claims. Such coverage shall include USL&H and/or Maritime Employer's Liability (MEL).

3. **Automobile Liability Insurance:** Automobile Liability insurance against claims of bodily injury (including death) and property damage (including loss of use) covering all owned, rented, leased, non-owned, and hired vehicles used in the performance of the work, with a **limit not less than $1,000,000 per accident** for bodily injury and property damage combined and containing appropriate uninsured motorist and No-Fault insurance provision, when applicable.

   Automobile liability insurance will include the District as additional insured on a primary and non-contributory basis. A waiver of subrogation will apply in favor of the District.

4. **Excess Insurance:** Excess (or Umbrella) Liability insurance with a **limit not less than $5,000,000 per occurrence and in the aggregate when combined with underlying primary limits**. This insurance shall provide coverage in excess of the underlying primary liability limits, terms, and conditions for each category of liability insurance in the foregoing subsections 1, 2 and 3. If this insurance is written on a claims-made policy form, then the policy shall be endorsed to include an automatic extended reporting period of at least five years.

   Excess/umbrella liability insurance will include the District as additional insured on a primary and non-contributory basis. A waiver of subrogation will apply in favor of the District.

5. **Professional Liability/Network Security Insurance:** Contractor shall obtain professional errors and omissions liability insurance in an amount of **- $5,000,000 per claim and in the aggregate**. Coverage shall respond to wrongful acts in the rendering of, or failure to render, professional services under this Agreement, electronic data losses or damage or breaches of electronic data security including disclosures of private or confidential information of the District or any employee, participant or beneficiary of the Services provided by Contractor pursuant to this contract. - The Professional Liability Insurance retroactive coverage date shall be no later than the effective date of this agreement. Contractor shall continuously maintain such insurance or purchase an extended reporting period providing that claims first made and reported to the insurance company within two years after

termination of the Agreement will be deemed to have been made during the policy period.

If Contractor shall hire subcontractor for all operations and risk involving professional network services exposure, this requirement may be satisfied by subcontractor's policies. Contractor shall impute the insurance requirements stated in this section to subcontractor by written contract or written agreement. Any exceptions must be mutually agreed in writing with the District.

B. Evidence of Insurance - Prior to performing any services, and within 10 days after receipt of the Contract Award, the Contractor shall file with the District a Certificate of Insurance showing the Insuring Companies, policy numbers, effective dates, limits of liability with a copy of the endorsement including the District as an Additional Insured for each policy where indicated in Section A.

Failure of the District to demand such certificate or other evidence of compliance with these insurance requirements or failure of the District to identify a deficiency from the provided evidence shall not be construed as a waiver of the Contractor's obligation to maintain such insurance. Acceptance by the District of any certificate or other evidence of compliance does not constitute approval or agreement by the District that the insurance requirements have been met or that the policies shown in the certificates or other evidence are in compliance with the requirements.

The District shall have the right but not the obligation of prohibiting the Contractor or Subcontractor from entering the project site until such certificates or other evidence of insurance has been provided in full compliance with these requirements. If the Contractor fails to maintain insurance as set forth above, the District may purchase such insurance at the Contractor's expense. The Contractor's failure to maintain the required insurance may result in termination of this Contract at the District's option.

C. Subcontractors - Contractor shall ensure that each Subcontractor meets the applicable insurance requirements and specifications of this Contract. All coverage for Subcontractors shall be subject to all the requirements stated herein and applicable to their profession. Contractor shall furnish the District with copies of certificates of insurance evidencing coverage for each Subcontractor upon request.

D. Cancellation of Insurance - The Contractor shall not cause any insurance policy to be canceled or permit any policy to lapse. Insurance companies or Contractor shall provide 30 days advance written notice to the District for cancellation in coverage or condition, and 10 days' advance written notice for cancellation due to non-payment. Should the Contractor receive any notice of cancellation or notice of nonrenewal from its insurer(s), Contractor shall provide immediate notice to the District no later than two days following receipt of such notice from the insurer. Notice to the District shall be delivered by email.

GC-19. CONFLICT AND PRECEDENCE/INTENT

A. In the event there are any conflicting provisions or requirements in the component parts of the Contract, the several Contract Documents shall take precedence in the following order:

1. Change Orders
2. Addenda

3. Specific Requirements
4. General Conditions
5. RFP 430-10427, dated June 29, 2020
6. Exhibit “A.1”, Statement of Work, dated July 1, 2021
7. Exhibit “A.2”, Maintenance Statement of Work, dated July 20, 2021
8. Exhibit “A.3”, Grant of License, dated July 1, 2021
9. Payment and Performance Bond
10. Exhibit “J”, Offer # 20.US.920324.02, dated August 31, 2021
11. Exhibit “K”, Milestone Completion Schedule, dated July 1, 2021

B. The intent of the Contract Documents is to prescribe a complete work. Contractor shall furnish all services, tools, equipment, transportation, supplies and incidentals required to complete all work. The Contract Price, whether lump sum or unit prices or a combination thereof, shall be full pay for all work and equipment required to fully complete the Contract work.

GC-20. PROGRESS MEETINGS

Progress review meetings shall be held at regular intervals as deemed necessary by the District Representative and mutually agreed by District and Contractor. Progress meetings shall be utilized to review the work schedule and discuss any delays, unusual conditions, or critical items which have affected or could affect the progress of the work.

Time is of the essence for this Contract. If at any time during the progress of work, the Contractor's actual progress, in the opinion of the District Representative, is inadequate to meet the Contract completion dates, the District may issue a written notice of noncompliance to the Contractor who shall thereupon take such steps as may be necessary to improve its progress. If within a reasonable period as determined by the District Representative, the Contractor does not improve performance to meet the work schedule, the District may direct the Contractor to accelerate the work through an increase in the Contractor's labor force, the number of shifts, overtime operations, additional days of work per week and/or an increase in the amount of plant; all without additional cost to the District. Neither such notice by the District nor the District's failure to issue such notice shall relieve the Contractor of its obligation to achieve the quality of work and rate of progress required by the Contract.

Failure of the Contractor to comply with the instructions of the District may be grounds for determination by the District that the Contractor is not prosecuting its work with such diligence as shall assure completion within the times specified. Upon such determination, the District may terminate the Contractor's right to proceed with the performance of the Contract, or any separable part thereof in accordance with Section GC-4.

GC-21. DELAYS AND EXTENSIONS OF TIME

If the Contractor is delayed at any time in the progress of work by any unforeseeable causes beyond the control of the Contractor, the Contract time shall be extended for such reasonable time as mutually agreed between District Representative and Contractor. The Contractor agrees to complete the work within the Contract time as thus extended. Except for delays caused by the acts or omissions of the District or persons acting for it, extensions of time granted by the District Representative to the

Contractor shall be the Contractor's sole and exclusive remedy for any delays due to causes beyond the control of the Contractor.

All claims for extension of time shall be made in writing to the District promptly after the Contractor knows or by reasonable diligence should know of the event causing or likely to cause the delay. In the case of a continuing cause of delay only one claim is necessary.

Avoidable delays in the prosecution or completion of the work, for which no time extension shall be granted, shall include all delays which in the opinion of the District Representative could have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor or its Subcontractors. Additionally, delays in the prosecution of parts of the work which may in themselves be unavoidable but do not necessarily prevent or delay the prosecution of other parts of the work nor the completion of the whole work within the time herein specified shall constitute avoidable delays for which no time extension shall be granted.

All changes of the time or changes of the schedule shall be made by Change Orders to the Contract pursuant to Section GC-11.

GC-22. AUDIT OF RECORDS

Contractor shall maintain records and accounts in accordance with International Financial Reporting Standards (IFRS) in connection with the performance of the Contract which shall accurately document incurred costs both direct and indirect, of whatever nature. If District Representative establishes uniform codes of accounts for the project, Contractor shall use such codes in identifying its records and accounts. District Representative or their representatives shall have the right to examine and copy at all reasonable times, with advance notification, Contractor's records and accounts for the limited purpose of verifying requests for payment when costs are the basis of such payment and for evaluating the reasonableness of proposed Contract Price adjustments and claims. Contractor shall make all records and accounts available to the District for inspection and copying at the District's main offices in Ephrata, Washington- or via remote electronic access or delivery.

GC-23. DISTRICT'S USE OF EQUIPMENT

A. The District shall be responsible for damages incurred as a result of use of the equipment and materials except when such damages occur as a result of faulty equipment or materials. Prior to using any equipment or materials, the District may notify the Contractor of inventory of equipment or materials yet to be delivered.

B. The District shall have the right to operate all equipment as soon and as long as it is in operational condition and formally accepted as complete per the Milestone Completion Schedule, Exhibit “K” and mutual agreement of readiness. This in no way is intended to prevent testing efforts as part of project acceptance activities. All repairs or alterations required by the Contractor shall be made by the Contractor at such times as directed and, in such manner, as shall cause the minimum interruption in the use of the equipment by the District.

GC-24. TAXES

A. Except for the Washington State retail sales and use taxes as may be levied upon the Contract, pursuant to RCW Chapters 82.08 and 82.12, the Contract Price includes and the Contractor shall have the full exclusive liability for the payment of all taxes, levies, duties and

assessments of every nature due and payable in connection with this Contract or its employees and Subcontractors performing work related to this Contract.

B. Washington State retail sales tax and use taxes levied upon this Contract pursuant to RCW Chapters 82.08 and 82.12 are excluded from the rates and if applicable will be reimbursed as follows:

1. If the Contractor has, or is required to have a valid Washington State sales tax identification number, the identification number shall be furnished to the District upon request. The Contractor shall make payment of any Washington State retail sales and use taxes due and Contractor shall be reimbursed by the District for the same. Contractor shall be solely responsible for any interest or penalties arising from late or untimely payment of said taxes.

2. If the Contractor is not required to have a valid Washington State sales tax identification number, it shall notify the District of the same. In such event, the District, after receiving proper invoices from Contractor, shall make payment of said Washington State retail sales and use taxes levied upon this Contract to the Washington State Department of Revenue.

GC-25. BOND IN LIEU OF RETAINAGE

This Section applies only to custom fabricated material manufactured in the State of Washington. Pursuant to RCW Chapter 60.28, the Contractor may submit a bond in lieu of the retainage that the District would otherwise keep under the terms of this Contract and pursuant to applicable law. Any such bond submitted in lieu of retainage must be on the form provided with these Contract Documents (see Exhibit "H"). In the event the Contractor fails at any time to pay persons protected under RCW Chapter 60.28 or the District has reason to believe that the District or other obligee under the bond has a claim against the retainage or for other good cause, the District may, at its option, resume retaining from monies earned by the Contractor in such amount as it would otherwise be entitled to retain had the bond not been accepted. Notwithstanding the District's resuming such retainage, said bond shall remain in full force and effect to the extent of its penal sum, limited to the amount of retainage released to the Contractor. After the Contractor has paid protected persons or otherwise cured any default, the District may, at its option, again release retainage pursuant to the terms of the bond. Not less than 30 days following Final Acceptance, District receipt of an Affidavit of Wages Paid approved by the Washington State Department of Labor & Industries, and District receipt of the proper releases from Washington State Department of Revenue, Employment Security Department, and Washington State Department of Labor and Industries, the original Bond in Lieu of Retainage shall be destroyed unless the Surety or Contractor requests the return of the bond, in writing, prior to destruction. Any costs associated with the Bond in Lieu of Retainage shall be included in the Contract Price.

GC-26. NON-WAIVER

No waiver of any provision of this Contract, or any rights or obligations of either party under this Contract, shall be effective, except pursuant to a written instrument signed by the party or parties waiving compliance, and any such waiver shall be effective only in the specific instance and for the specific purpose stated in such writing. The failure of either party to require the performance of any term of this Contract or the waiver of either party of any breach under this Contract shall not operate or be construed as a waiver of any other provision hereof, nor shall it be construed as a waiver of any subsequent breach by the other party hereto.

GC-27. PAYMENT AND PERFORMANCE BOND

To assure compliance with the terms of the Contract Documents, the Contractor shall furnish a Payment and Performance Bond in an amount equal to 25% of the amount of the Contract Price, excluding Washington State Sales Tax, with surety or sureties who are acceptable to the District. This Payment and Performance Bond shall remain in force for a period of 365 days after Final Acceptance. Thirty days following this expiration, the original Payment and Performance Bond shall be destroyed unless the Surety or Contractor requests the return of the bond, in writing, prior to destruction. The Payment and Performance Bond must be on the form provided with these Contract Documents as Exhibit "B". The cost of the Payment and Performance Bond shall be included in the Contract Price.

GC-28 OWNERSHIP OF WORK PRODUCT/COPYRIGHT

A. Design files, site specific packages shall be provided upon acceptance. Only RTU licenses will be granted for any software. Grant of License language is proposed. Upon delivery of any Licensed Material and subject to District's payment of the applicable fees for such Licensed Material and compliance with the other terms and conditions of this Agreement, Contractor grants to District, and District accepts, a personal, nonexclusive, nontransferable license to use the portions of the Licensed Material for which activation has been authorized by Contractor, solely on or with the single unit or arrangement of equipment for which the Licensed Material was delivered, for District's internal use in the United States.

B. District acknowledges and agrees that: (a) Contractor may have encoded within the software optional functionality, features and/or capacity, which may be accessed only through the purchase of the applicable license extension from Contractor at an additional price (no licenses are granted to such functionality, features and/or capacity unless District purchases the applicable license extension); and (b) District may need to obtain a new or additional application key from Contractor to use such software.

C. This Agreement applies to all updates, upgrades, maintenance releases, revisions and enhancements for the Licensed Materials which Contractor may supply to District from time to time.

D. District may copy Licensed Materials as reasonably necessary for backup and archival purposes if the copies contain all of the Contractor proprietary notices contained in the original Licensed Materials. All copies of all Licensed Materials (including partial copies) are Contractor Confidential Information. All rights, title and interest in and to the Licensed Materials, including all intellectual property rights, remain vested in Contractor, its suppliers and licensors, and District is granted only a limited license to use the Licensed Materials in conjunction with the equipment.

E. District shall not directly or indirectly: (a) modify, copy, transmit, alter, merge, decompile, disassemble, reverse engineer or adapt any Licensed Material or portion thereof; (b) encumber, time-share, rent or lease the rights granted herein; (c) manufacture, adapt, create derivative works of, localize, port or otherwise modify any Licensed Material or portion thereof; (d) disclose or otherwise make available any Licensed Material or portion thereof to any third party; (e) enable any software functionality, feature or capacity which Contractor licenses as a separate product, without Contractor's prior written consent; (f) take any action that may result in the software becoming subjected to the terms of a license that requires it to be (i) disclosed or distributed in source code form, (ii) licensed for the purpose of making

derivative works, or (iii) redistributable at no charge; or (g) use any Licensed Material or portion thereof except in accordance with this Section GC-28.

F. Upon reasonable prior written notice, Contractor may inspect and audit District's compliance with this Section GC-28 during normal business hours. District shall cooperate with the audit and shall grant assistance and access to applicable records, materials, personnel, equipment, and any other information or products which may reasonably enable Contractor to determine whether the use, copying and disclosure of the Licensed Materials comply with this Agreement. In addition, District shall provide remote access to its systems to enable Contractor to electronically audit District's compliance with this Section GC-28. If an audit reveals that District possesses or at any time possessed unlicensed copies of any Licensed Materials, or used any Licensed Materials beyond the licensed functionality, features or capacity restrictions or beyond the terms stated herein, then District shall pay Contractor the applicable license fees (plus interest) and the costs incurred in the audit immediately upon request.

G. Certain software may be delivered with its own specific license ("Additional License"). In such a case, the terms of the Additional License will be delivered to District, such as in a separate license.txt file or as part of a tear-open document and will govern use of the software by District to the extent Contractor does not have a right to supersede them in this Agreement. Contractor's licensors are third party beneficiaries of this Agreement with respect to their Licensed Materials.

H. If District's license or Additional License is cancelled or terminated, or when District no longer uses the Licensed Materials, District shall return or destroy the Licensed Materials and all copies and certify to Contractor that it has done so.

GC-29 DISPUTE RESOLUTION

All disputes arising out of or in connection with this Agreement, including any question regarding its existence, validity or termination, must, unless amicably settled between the Parties, be finally settled by arbitration according to the Rules of Arbitration of the American Arbitration Association ("Rules") by three arbitrators in accordance with the Rules.

GC-30 FORCE MAJEURE

Neither party will be liable for any failure or delay in the performance of its obligations, other than the payment obligations of the District, due to causes beyond the reasonable control of the party affected, including but not limited to war, sabotage, insurrection, riot or other act of civil disobedience, strikes or other labor shortages, act of any government affecting the terms hereof, significant failure of the Internet or any power grid, accident, fire, explosion, flood, hurricane, severe weather, or other act of God. The obligations and rights of the party so excused will be extended based on a mutually agreeable period of time equal to that of the underlying cause of the delay.

GC-31 ENTIRE AGREEMENT

This Agreement represents the entire understanding between the parties with respect to the subject matter of this Agreement, and cancels and supersedes all prior agreements or understandings, whether written or oral, with respect to the subject matter. This Agreement may only be modified or amended by an instrument in writing signed by duly authorized representatives of the parties. No verbal changes shall be permitted.

SPECIFIC REQUIREMENTS

SR-1. SCOPE OF WORK/WORK TO BE PERFORMED BY THE CONTRACTOR

The Contractor shall provide all services, equipment, and supplies required to perform the work specified in these Contract Documents for the Supply of a MPLS/DWDM WAN Solution.

SR-2. COMPLETION SCHEDULE

The Contractor shall not commence any work under this Contract until after all of the following: (1) receipt of notification of Contract Award; (2) full execution of the Contract; (3) providing the required Payment and Performance Bond; (4) providing the required Insurance Certificates; (5) attending the pre-work conference, if any; and (6) receipt of Notice to Proceed (NTP) for Milestone No. 1 signed by the District. The District will issue an additional NTP for each additional Milestone.

Both Parties shall complete their portion of such work in a diligent and workmanlike manner. All Milestone work shall be completed in accordance with the following Milestone Schedule:

Schedule Milestone No.	Description	Completion Date
1	Network Architecture and Design	14 Weeks following Contract Award
2	Procurement of Material	15 Weeks following Contract Award
3	Installation of Network Management Software and Training	20 Weeks following Contract Award
4	Installation and Configuration of Equipment (17 Sites)	35 Weeks following Contract Award
5	Contract Acceptance and Close-Out	37 Weeks following Contract Award

The provisions of this Agreement shall remain in effect for two years following District issuance of NTP for Milestone No. 3.

SR-3. MATERIALS AND EQUIPMENT

A. Materials Furnished By Contractor

1. The Contractor shall purchase and furnish for this Contract all materials for the project except for the equipment and materials which shall be supplied by the District. The materials to be furnished by the Contractor and incorporated into the work shall be new and of grades and quality specified. Any materials required for a completed project, that are not specified below as being furnished by the District are to be furnished by the Contractor.

All materials and equipment for this project supplied by the Contractor shall be delivered F.O.B to the District's Ephrata warehouse. This shall mean that the Contractor will pay the cost of transportation to have the materials delivered "free on board" to the District's Ephrata Warehouse located at 154 A Street SE, Ephrata, Washington 98823. It also shall mean that the title and risk of loss do not pass until the materials and equipment have been inspected and moved from the conveyance. Contractor and its licensors retain title to all Licensed Materials, Contractor Confidential Information, and other Contractor proprietary data delivered to District and all copies of same.

All materials and equipment shall be suitably packed to ensure against damage from weather or transportation and in accordance with the requirements of common carriers. The delivery address and Contract number shall be clearly marked on the outside of all packaging. Each shipment must be accompanied by a packing list, which shall reference the Contract number, the purchase order number and include item descriptions, part numbers, and quantities. Any bills of lading, shipping order or the like shall also contain the above listed information.

Advance notification of shipment of the equipment/material is required. Contractor shall notify the District's Warehouse Foreman, LeRoy Boyd at (509) 754-5088, Ext. 2268, 48 hours prior to delivery of shipment. Failure by the Contractor to provide the advance notification specified herein may result in delays in unloading and receipt. The costs of all such delays shall be charged to the Contractor's account.

District receiving hours are Monday through Thursday, 6:30 a.m. – 12:00 p.m. and 12: 30 p.m. – 4:00 p.m. No deliveries will be received on District observed holidays or during any other times unless specific prior arrangements have been made with the District's Warehouse Foreman. District observed holidays are as follows: New Year's Day, President’s Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day. If a holiday falls on Saturday, it will be observed on the previous Friday. If a holiday falls on a Sunday, it will be observed on the following Monday.

2. District will have five business days to inspect and evaluate the materials and equipment following receipt before notifying Contractor that it is either accepting or rejecting the materials and equipment. Contractor will be deemed to have completed its delivery obligations if the materials and equipment are supplied in accordance with the Contract Documents and the District notifies the Contractor in writing that it is accepting the materials and equipment or the five day inspection period has expired.

B. Materials Furnished By District

1. Equipment Racks

2. Equipment Rack Space

3. Cable Racks

4. Auxiliary Framing

5. Fuse Panels

6. DSX Panels

7. Fiber Panels

8. Cabling

SR-4. SUBSTITUTION OF MATERIALS AND EQUIPMENT

Whenever a material, article or piece of equipment is identified in the Contract Documents by reference to manufacturers' or vendors' names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article or piece of equipment or other manufacturers or vendors which shall perform adequately the duties imposed by the general design shall be considered equally acceptable, provided the material, article, or piece of equipment so proposed is, in the opinion of the District, of equal substance, appearance and function. It shall not be purchased or installed by the Contractor without prior written approval from the District Representative.

Offers of substitution of materials or equipment shall include data to substantiate that the "or equal" product meets the following criteria applicable to the time submitted.

A. The change is adaptable to the design,

B. The functional performance shall be equal to or better than the item specified,

C. Where appearance affects the end product, the appearance of the item shall be as good as or better than the item specified,

D. The maintenance cost for the product or item shall be equal to or less than the item specified including establishing and maintaining necessary stock at the District's facilities,

E. The quality of materials used shall be as good as or better than the item specified,

F. The net price of the item shall be within the same price range as the item specified, and

G. The cost to the District of furnishing and installing the item, including any necessary redesign costs by the District Representative which shall be reimbursed to the District by the Contractor shall be equal to or less than that of the item specified.

When substitute materials or equipment necessitates changes to or coordination with other portions of the work, the data submitted shall include shop drawings showing all such changes. As part of any acceptance of substitute materials or equipment, the Contractor shall furnish all materials and make all other modifications as may be required to incorporate such changes at no additional cost to the District unless the change was due to circumstance outside of control of the Contractor, its subcontractors and suppliers.

IN WITNESS WHEREOF, the Contractor and the District have executed this Agreement each by its proper respective officers and officials thereunto duly authorized the day and year first above written.

Public Utility District No. 2 of Grant County, Washington	Nokia of America
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

EXHIBIT "A.1" – STATEMENT OF WORK

(See attached PDF)

EXHIBIT "A.2" – MAINTENANCE STATEMENT OF WORK

(See attached PDF)

EXHIBIT "A.3" – GRANT OF LICENSE

(See attached PDF)

EXHIBIT "B" – PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, That _____ of _____, (hereinafter called the "Principal"), and _____, as Surety, are jointly and severally held and bound unto PUBLIC UTILITY DISTRICT NO. 2 OF GRANT COUNTY, WASHINGTON (hereinafter called the "District"), in the sum of $_____ for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators and assigns, and successors and assigns, firmly by these presents.

This bond is executed pursuant to and compliance with Chapter 39.08, Revised Code of Washington, and all rights and remedies under this bond shall be determined in accordance therewith.

THE CONDITION of this bond is such that, WHEREAS, the said Principal herein, executed a certain contract with the District, by the terms, conditions and provisions of which contract the said Principal herein, agrees to furnish all material and do certain work, to--wit: _____ per the Contract Documents made a part of said Contract, which Contract as so executed is hereunto attached, is now referred to and by reference is incorporated herein and made a part hereof as fully for all purposes as if here set forth at length.

NOW, THEREFORE, if the Principal herein shall faithfully and truly observe and comply with the terms, conditions and provisions of said Contract in all respects, including all guarantees and warranties arising thereunder, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract, upon the terms proposed therein and within the time prescribed therein, or within such extensions of time as may be granted under said Contract and shall hold the District harmless from all costs and damages (including reasonable legal fees) which it may incur by reason of any failure to do so, and shall fully reimburse and repay the District for all expense which it may incur in making good any such failure of performance on the part of the Principal, and shall pay all laborers, mechanics, and subcontractors and material suppliers, and all persons who supply such person or persons, or subcontractors, with provisions and supplies for the carrying on of such work and shall fully reimburse the District for any excess in cost of construction over the cost set in the Contract and any amendments thereto, occasioned by any default of the Principal under the Contract and any amendments thereto, then this obligation shall be null and void, but otherwise shall remain in full force and effect.

No prepayment or delay in payment and no change, extension, addition, or alteration of any provision of the Contract agreed to between the Contractor and the District, and no forbearance on the part of the District, shall operate to relieve surety from any liability on this bond, and consent to make these alterations without further notice to or consent by the surety is hereby given.

The Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on this bond, except as provided herein, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract or to the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid to the Principal shall automatically increase the obligation of the Surety on the bond and notice to Surety is not required for such increased obligation.

Dated this _____ day of _____, 20___.

"PRINCIPAL"

_____
Full legal company name

_____
Signature

_____
Print name

"SURETY"

_____
Full legal company name

_____
Signature

_____
Print name

Address of local office and agent, and home offices of Surety Company:

_____

_____

_____

_____

* Contractor shall attach Power of Attorney for person signing on behalf of Surety.

EXHIBIT "C" – CHANGE ORDER

NO. ___

Pursuant to Section GC-11, the following changes are hereby incorporated into this Contract:

A. Description of Change:

B. Time of Completion: The revised completion date shall be _____. Liquidated damages, if any, shall be assessed based on the revised completion date.

OR

The completion date shall remain _____.

C. Contract Price Adjustment: As a result of this Change Order, the not to exceed Contract Price shall remain unchanged (be increased/decreased by the sum of $_____ plus applicable sales tax). This Change Order shall not provide any basis for any other payments to or claims by the Contractor as a result of or arising out of the performance of the work described herein. The new total revised maximum Contract Price is $_____, including changes incorporated by this Change Order.

D. Except as specifically provided herein, all other Contract terms and conditions shall remain unchanged.

Public Utility District No. 2 of Grant County, Washington	Full Legal Name of Contractor
Accepted By: _____	Accepted By: _____
Name of Authorized Signature Title	Name of Authorized Signature Title
Date: _____	Date: _____

EXHIBIT "D" – DISTRICT INSTRUCTIONS

No. _____

Contract No.:		Drawing No. (if applicable):	
Project Name:			

This Instruction is issued in accordance with the terms and conditions of the Contract Documents as:

☐ 1. An interpretation of Contract Documents, or

☐ 2. An order to proceed immediately with minor changes not affecting Contract Price or time for completion of the work.

INSTRUCTION:

DO NOT PROCEED with the Instruction 1 or 2 above if you believe this Instruction shall provide the basis for a claim or increase in the Contract Price or time for completion of the work. By signing this Instruction, Contractor hereby agrees that as a result thereof, there shall be no change in Contract Price or time of completion and waives any claim relating thereto.

RECEIPT ACKNOWLEDGED AND INSTRUCTION ACCEPTED (unless CCOP is attached):

Public Utility District No. 2
of Grant County, Washington

Accepted By: _____

Name of Authorized Signature
Title

Date: _____

Full Legal Name of Contractor

Accepted By: _____

Name of Authorized Signature
Title

Date: _____

☐ 3. An order to proceed with preparation and submittal of Contractor Change Order Proposal Form (CCOP, Exhibit "E") immediately for change affecting Contract Price or time for completion of the work.

SUBMIT AN ITEMIZED PROPOSAL for changes in the Contract Price or time for completion of the work if you believe Instruction 3 is a modification to the Contract Documents that affects Contract Price or time for completion of the work. Within three days, the Contractor must submit a CCOP or notify the District Representative, in writing, of the date on which the CCOP submission will be completed.

EXHIBIT "E" – CONTRACTOR CHANGE ORDER PROPOSAL

No. _____

Contract No: 430-10427 Date: _____

Drawing No.: _____

To: Public Utility District No. 2 of Grant County, Washington

A. Description of Proposal: (attach separate document/pages/drawings, etc., as needed)

B. Proposed Contract Time of Completion Adjustment: (if any)
   1. Describe impact of proposal on Contract time of completion or milestone(s) (attach separate pages, documents as needed).
   2. Provide reason/justification for any change to the Contract completion date or required milestone date(s) including a description of circumstances leading to the event that required this proposal (attach separate pages, documents as needed).
   3. Provide all supporting data that will be helpful to the District in evaluating the proposed schedule change (attach separate pages, documents as needed).
   4. Date event occurred (if applicable) that required this proposal as well as attaching a revised project schedule showing the impact (if any) of the proposed schedule change.

C. Proposed Contract Price Adjustment: (if any)
   1. Indicate proposed increase/decrease to the Contract lump sum or Contract Price.
   2. For any proposed Contract Price adjustment, Contractor shall provide a detailed cost breakdown, including all labor categories, hours, rates, material quantities, and equipment hours and charges (attach separate pages, documents as needed).

   $ _____ (lump sum/not to exceed)

D. Impact to project if this Proposal is not accepted: (if any)

Note: The District shall not be liable for any payment to Contractor, or any claims arising therefrom, for any proposal, until such time as a Change Order has been approved and authorized, in writing, by the District (if ever), in accordance with Contract Section GC-11. Contractor understands and agrees that any information contained herein is in no way binding on the District or is submitted only for the purpose of evaluation by the District.

Full Legal Name of Contractor

Signature: _____

Print Name: _____

Title: _____

Date: _____

EXHIBIT "F" – CERTIFICATE OF COMPLETION AND RELEASE

FROM: _____
(Contractor)

TO: Public Utility District No. 2 of Grant County, Washington
(District)

Contract No. 430-10427, entered into the _____day of _____, 20____.

Between Public Utility District No. 2 of Grant County, Washington and
_____ of _____, _____ for
_____
_____

KNOW ALL MEN BY THESE PRESENTS:

1. The undersigned hereby certifies that there is due from and payable by the District to the Contractor under the Contract and duly approved Change Orders and modifications the balance of $_____.

2. The undersigned further certifies that in addition to the amount set forth in paragraph 1, there are outstanding and unsettled the following items which he claims are just and due and owing by the District to the Contractor:

a. _____

b. _____

c. _____

d. _____
(Itemize claims and amounts due - If none, so state)

3. The undersigned further certifies that all work required under this Contract including work required under Change Orders numbered _____ has been performed in accordance with the terms thereof, and that there are no unpaid claims for materials, supplies, or equipment and no claims of laborers or mechanics for unpaid wages arising out of the performance of this Contract, and that the wage rates paid by the Contractor and all Subcontractors were in conformity with the Contract provisions relating to said wage rates.

4. Except for the amounts stated under paragraphs 1 and 2, hereof, the undersigned has received from the District all sums of money payable to the undersigned under or pursuant to the above mentioned Contractor or any modification or change thereof.

Certificate of Completion and Release
Page 2

5. That in consideration of the payment of the amount stated in paragraph 1 hereof the undersigned does hereby release the District from any and all claims arising under or by virtue of this Contract, except the amount listed in paragraph 2 hereof; provided however, that if for any reason the District does not pay in full the amount stated in paragraph 1 hereof, said deduction shall not affect the validity of this release, but the amount so deducted shall be automatically included under paragraph 2 as an amount which the Contractor has not released but shall release upon payment thereof. The Contractor further certifies that upon the payment of the amount listed in paragraph 1, hereof, he shall release the District from any and all claims of any nature whatsoever arising out of said Contractor or modification thereof, and shall execute such further released or assurances as the District may request.

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Signature: _____ Title: _____

Name: _____ Date: _____
Authorized Representative

Location or Place Executed (City and State): _____

EXHIBIT "G" – COLLECTIVE BARGAINING AGREEMENT, SECTION 2.5

2.5 Contracting and Job Security

2.5.1

The District shall make appropriate provisions in any agreement entered into with any building trades, electrical or mechanical contractor or subcontractor, for the furnishing of work to the District, that such contractor or subcontractor shall conform to the Contract provisions of Washington State law affecting Public Utility District at the time of the contract award, except that contracts let in accordance with Section 2.5.2 shall require adherence to current wage rates. The District shall require contractors to furnish the District with the rates of wages and other employee benefits.

2.5.2

For purposes of the preceding paragraph with respect to contracts for line and substation maintenance and construction, including pole testing and tree trimming, current and prevailing wage rates, employee benefits and working conditions shall be defined as the equivalent of those expressed through collective bargaining for the Union's construction membership. Verification of payment shall be furnished to the Union by way of Contractor certified payroll documents upon request. It is agreed by the parties hereto that this requirement can be fulfilled by the contractors having an agreement with Local 77.

2.5.3

Written notice shall be given to the Union prior to the start of pending contract work.

2.5.4

It is recognized by both the Union and the District that a stable total work force is desirable. To this end, the District shall not use contracting as a reason for reduction of force. In the case of lack of work because of automation or technological change, reductions shall be made by attrition when reassignment is not feasible. Employees so affected shall not lose their established pay rate.

EXHIBIT "H" – BOND IN LIEU OF RETAINAGE

KNOW ALL MEN BY THESE PRESENTS, that we _____, as Principal, and _____, as Surety, are held and firmly bound unto Public Utility District No. 2 of Grant County, Washington (hereinafter "District"), and to any claimants eligible to file a lien or claim against monies retained by the District pursuant to RCW 60.28 (hereinafter collectively designated as "Obligees"), from monies earned by Principal in the sum stated below, to the payment of which, well and truly to be paid, we bind ourselves, or heirs, executors and successors jointly and severally, firmly by these presents.

The condition of the obligations is such that, whereas, the Principal and the District entered into a Contract for public improvement for _____ and, whereas, the Principal requested the District to accept this bond in lieu of all of the Contract retainage which the District would otherwise be required to withhold pursuant to Chapter 60.28 RCW; and whereas, the Principal has submitted to the District this bond executed by itself and the Surety, a corporation authorized to issue surety bonds in the State of Washington, in the penal sum of, $_____ lawful money of the United States of America, which is 5% of the Contract Price, and the Principal has requested the District, within 30 days of delivery of the bond to the District, to release the monies that would otherwise be retained; and the District has consented to permit Principal to file this bond in lieu hereof.

NOW, THEREFORE, if the Principal shall indemnify the Obligees from all loss which Obligees may suffer by virtue of the release of retainage to Principal on monies earned or to be earned, and shall pay any sum which Obligees may recover on their claims, together with costs of suit, reasonable legal fees, and interest to which the claimants may be entitled consistent with law and any claims, costs of suit and reasonable legal fees incurred by the District, then this obligation to be null and void, otherwise to be in full force and effect.

Provided: however, it is expressly understood and agreed:

1. This bond is given and accepted under and in accordance with the provisions of RCW 60.28 and is subject to all claims and liens and in the same manner and priority as set forth for retained percentages contained therein.

2. The laws of the State of Washington shall be applicable in the determination of the rights and obligations of the parties hereunder.

3. No right of action shall accrue upon or by reason hereof to, or for the use or benefit of anyone other than the Obligees herein identified.

4. The aggregate liability of the Surety under this bond for claims against this bond shall not exceed the penal sum of this bond unless change orders, changes in quantities of work or materials provided or other amendments to the Public improvement Contract increase the amount the District is required to retain, in which event the aggregate liability of the Surety shall increase by a sum equaling the increase in the Contract Price multiplied by 5%.

5. The Surety acknowledges that increases in Contract Price may occur as identified in the preceding paragraph. The Surety hereby waives any defense of lack of notice of said increases and the consequent increases in retainage released to the Principal against claims by the Obligees, or any of them.

6. In the event Principal fails at any time to pay persons protected under Washington law, RCW Chapter 60.28, or the District has reason to believe that the District or other Obligee has a claim against the retainage or for other good cause, the District claim against the retainage may, at its option, resume retaining from monies earned by Principal such amount as it would otherwise be entitled to retain had this bond not been accepted. Notwithstanding the District's resuming such retainage, this bond shall remain in full force and effect to the extent of its penal sum, limited to the amount of retainage released to the Principal. After Principal has paid protected persons or otherwise cured any default, the District may, at its option, again release retainage pursuant to this agreement. Notwithstanding any action the District may take pursuant to this section, Surety shall remain liable as set forth above. It shall be no defense, by Surety or Principal, against any claim under this bond that the District should have resumed retaining monies.

IN WITNESS WHEREOF, said Principal and Surety have hereunto set their hands and seal this ____ day of _____, 20___.

"PRINCIPAL"

_____
Signature

_____
Print Name

_____
Attorney in Fact

"SURETY"

_____
Signature

_____
Print Name

_____
Attorney in Fact

Address of local office and agent, and home offices of Surety Company:

_____

_____

_____

_____

* Contractor shall attach Power of Attorney for person signing on behalf of Surety.

EXHIBIT "I" – NOTICE TO PROCEED

To: _____
_____
_____

Project Name: _____

Date of Award: _____

You are hereby notified to commence work on Milestone No. ____ on or before _____, 20__, and you are to complete the work in accordance with Section SR-2. All required work, including labor and specified materials, shall be in full compliance with the terms and conditions contained in the Contract Documents referenced above, which are herein incorporated by this reference.

Public Utility District No. 2
of Grant County, Washington

BY: _____

David Parkhurst
District Representative

DATE: _____

EXHIBIT "J" – CONTRACTOR'S OFFER # 20.US.920324.02

(See attached PDF)

EXHIBIT "K" – MILESTONE COMPLETION SCHEDULE

(See attached PDF)

NOKIA

GRANT COUNTY PUBLIC UTILITY DISTRICT

MPLS/DWDM WAN

Contract Documents 430-10427

Exhibit “A.1”

Statement of Work

July 1, 2021

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1 Introduction

This Statement of Work (“SOW”) describes the deliverables, parties’ respective responsibilities and other conditions applicable for the provision of Network Design, Engineering and Installation of IP and Optical Network Equipment, Staging Services, Optical Network Integration and Network Management Systems Installation and Commissioning (“Service(s)”) by Nokia of America Corporation (“Nokia”) for GRANT COUNTY PUBLIC UTILITY DISTRICT (“District”). Performance of the Services described in this SOW shall be governed by the terms and conditions of Contract Documents 430-10427 (“Agreement”). No obligation to provide any of the Services described herein arises until an Agreement has been executed by both parties and an order for such Service, incorporating the terms of this SOW, has been placed by District and accepted by Nokia. In the event of a conflict between the terms of the Agreement and this SOW, the several Contract Documents shall take precedence in the order outlined in Section GC-19 of the Agreement. Nokia’s performance of the Services described below is subject to the assumptions, exclusions and other conditions identified in this document.

2 Project Description

2.1 Description

Nokia is proposing the 1830PSS and the 7750 for the GCPUD solution. Phase 1 will consist of installing and integrating (11) 1830PSS nodes, [there are (9) Edge Nodes each and (2) Core Nodes], 2 7750 SR-7s, and 2 7210 SAS. Additionally, the NSP NFM-P/T and Service Portal Express Management Systems will be installed and integrated.

Phase 2 will consist of installing (6) 1830PSS nodes [there are (5) Edge Nodes and (1) In-Line Amplifier being added to the network] and integrating them with the existing 11 1830PSS nodes.

Section 2.3 below, shows the physical connectivity between the routers and the DWDM layer. Each site sends a dedicated wave to EPH and a dedicated wave to MLK providing redundant high-speed express paths devoid of routing and switching decisions or congestion from neighboring sites.

At each individual site, the 1830 provides a 10 port 10GE card with a 100G wave that connects to EPH and another physically diverse 10 port 10GE card with a 100G wave that connects to MLK. At EPH, the PSS-16II, is used to terminate the 15, 100G Waves coming from the 15 edge sites in the field. At EPH, each of the 100G waves coming from the edge sites are broken back down into 10G ports to hand off to the 10GE ports on the 7750 Service Router. Each edge site includes a 12CE121 module used to connect 1GbE interfaces. The 12CE121 cards will be dual homed to the S13X100E modules and the traffic will be carried in VLANs to the MLK and EPH core sites.

Two additional 100G waves between EPH and MLK provide direct high-speed interconnect between the two 7750 SR-7s core routers. These SR-7s routers each have a high capacity 7210 SAS-Sx acting configured in satellite mode for aggregating local hub sites or other 1/10G ports. These SAS-Sxs are connected to the 7750 with redundant 100GigE interfaces

This SOW includes the following services:

- Project Management Services
- Network Design
- Network Architecture and Design – IP Service Routers
- Engineering and Installation support of IP / Optical Network Equipment
- Staging Services
- Optical Network Integration
- Network Integration – IP Service Routers
- NSP Installation and Commissioning and Integration
- NSP NFM-T Installation and Commissioning and Integration
- NSP NFM-P Installation and Commissioning and Integration
- Service Portal Express- Installation, Commissioning, and Integration with NFM-P
- Network Services Migration – IP Service Routers

2.2 Architecture Diagrams

2.2.1 IP Network

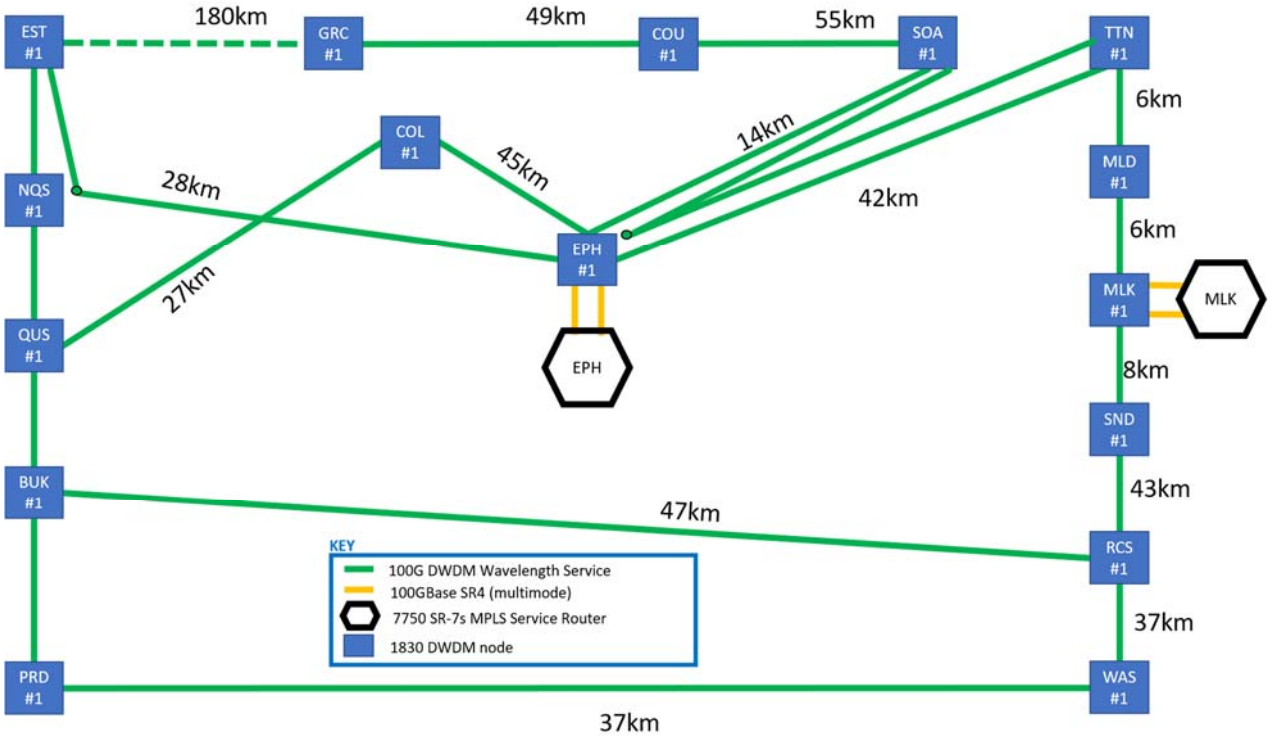


Figure 1- Physical Layout

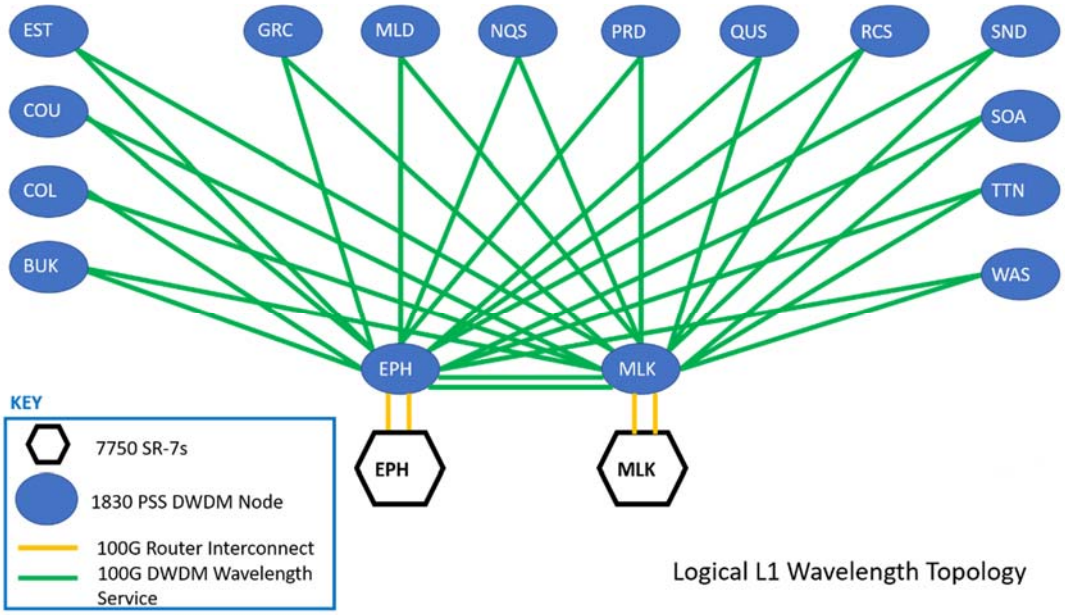


Figure 2- Logical Wavelength Topology

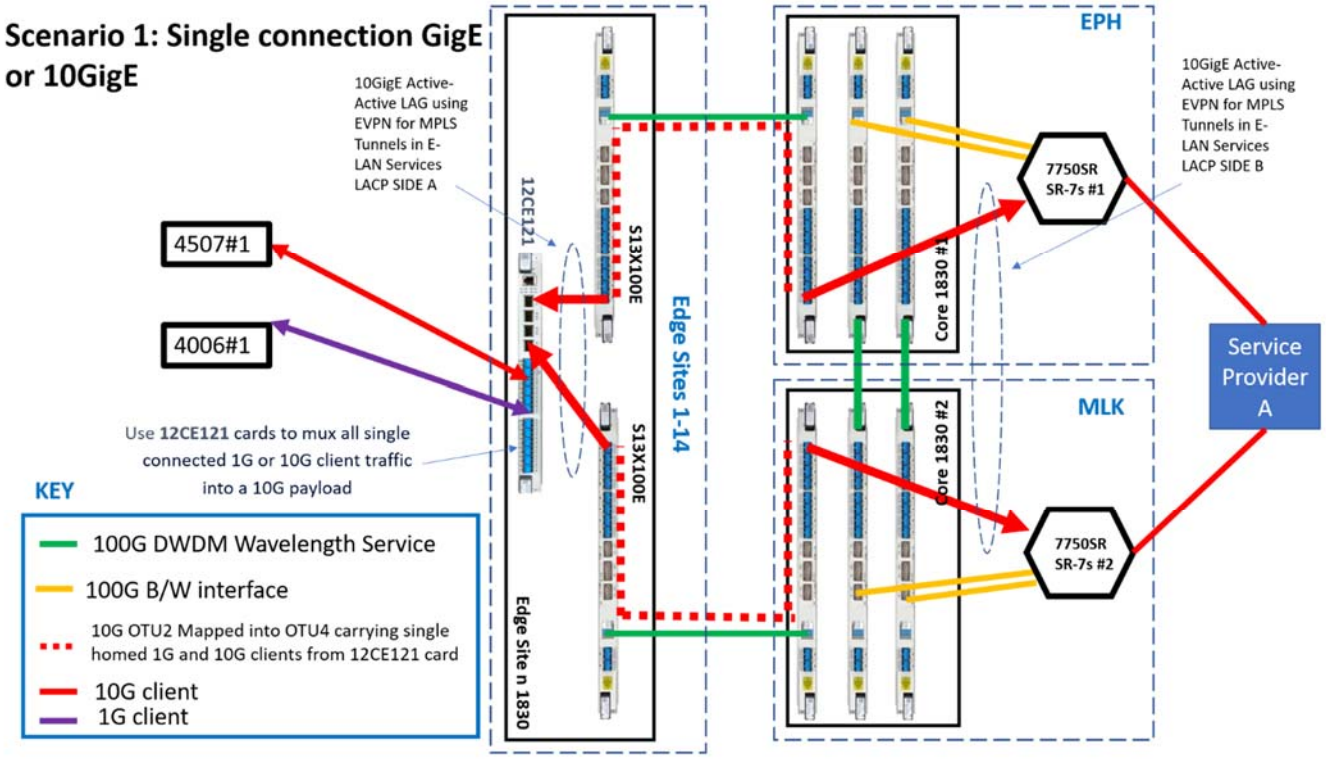


Figure 3- Single GigE or 10GigE connection at edge

2.2.2

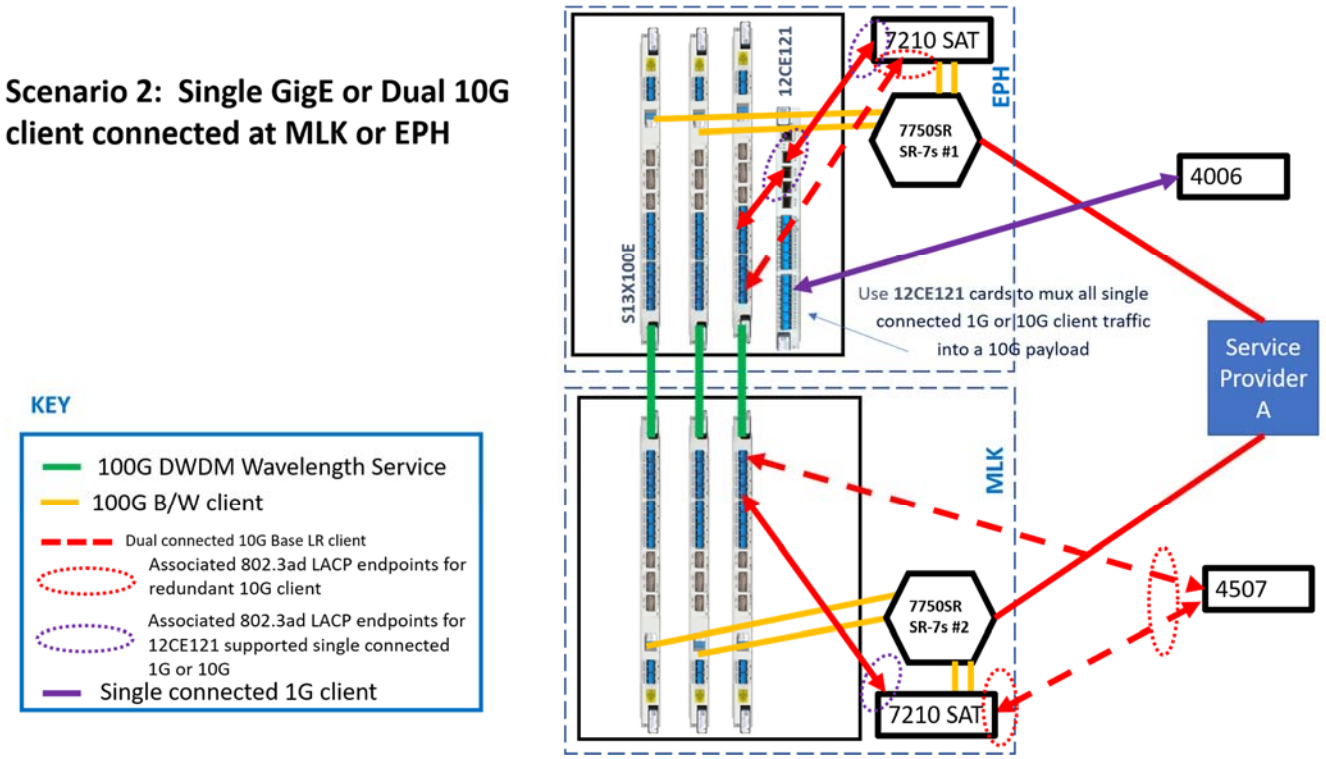
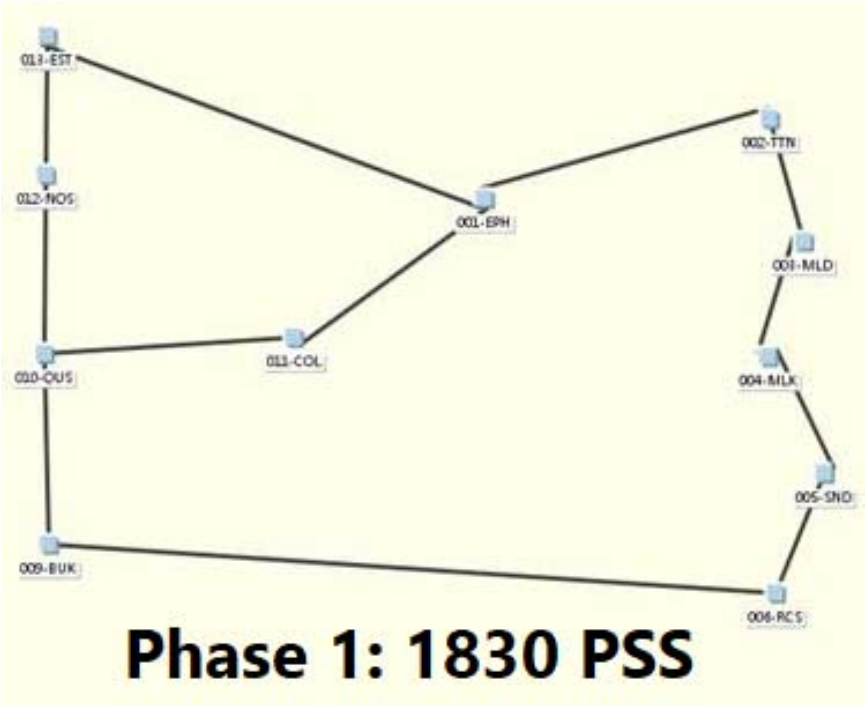
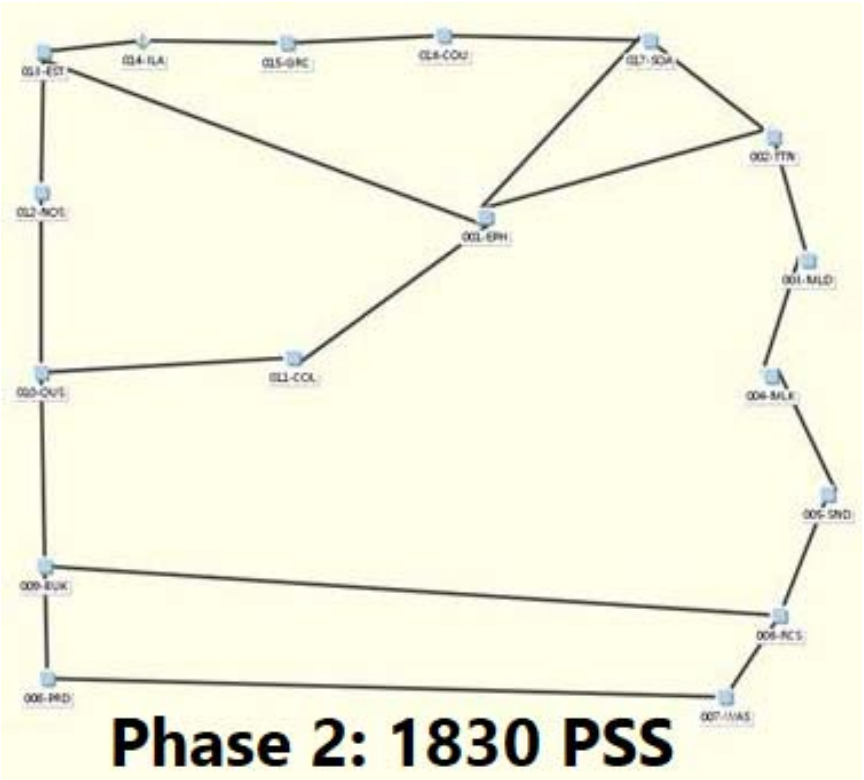


Figure 4- 1GigE or 10GigE hub connectivity at MLK or EPH

NOKIA

Optics Network





2.3 Equipment Configuration

The Services described in this SOW are exclusively for the following products:

Network Architecture – Optical

- There are two 100G waves from a pair of S13X100R cards from each Edge Node to the Core Nodes (EPH & MLK). Each 100G wave carries 10x10GigE circuits. 12CE121s are present to carry the 1G or non-redundant 10G clients
- There are two 100G circuits passing between MLK and EPH over S13X100Rs equipped with 100G (QSFP28) clients. These are for the 200G interconnect between 7750s
- There are five 100G circuits passing between MLK and EPH over S13X100Rs to provide redundant 10G connections between local hub sites (connected to EPH or MLK) and the two 7750s. 12CE121s are present to carry the 1G or non-redundant 10G clients

- Phase 1: There are (9) Edge Nodes each and (2) Core Nodes
  - Each Edge Node contains (2) S13X100R modules equipped with SFP+ 10GBASE-LR –LW clients. Each edge node also contains at least 1 12CE121 equipped with 1000Base-LX SFPs.
  - EPH contains (16) S13X100Rs equipped with SFP+ 10GBASE-SR clients and 10GBase-LR clients. EPH also contains (3) 12CE121 equipped with 1000Base-LX SFPs.
  - MLK contains (16) S13X100Rs equipped with SFP+ 10GBASE-SR clients and 10GBase-LR clients. EPH also contains (1) 12CE121 equipped with 1000Base-LX SFPs.

- Phase 2: There are (5) Edge Nodes and (1) In-Line Amplifier added to the network
  - Each Edge Node contains (2) S13X100R modules equipped with SFP+ 10GBASE-LR –LW clients. Each edge node also contains at least 1 12CE121 equipped with 1000Base-LX SFPs.
  - EPH adds (5) S13X100Rs equipped with SFP+ 10GBASE-SR clients.
  - MLK adds (5) S13X100Rs equipped with SFP+ 10GBASE-SR clients.

NFM-T Module:

- Network Functions Manager – Transport (NFM-T):
- For NFM-T module only, the configuration will include the following on new server/VMware:
  - NFM-T server/database
  - Red Hat Enterprise Linux (RHEL 7.3)

The following table depicts the NFM-T module deployment.

NSP System	NFM-T deployment
NFM-T	▪ New server/VMware ▪ RHEL 7.3 ▪ Simplex configuration ▪ High Availability (HA) configuration

Network Architecture and Design, Integration and Migration – IP Service Routers

- 2 x 7750 SR-7s
- 2 x 7210 SAS-Sx

Network Services Platform (NSP) R21:

- The NSP configuration will include the following, per the licenses purchased by District:
  - 1 x Deployer Node VM
  - 6 x NSP Cluster VM
  - 2 x Co-located NFM-P (single VM for the primary application server and database server and second VM for the backup application and database server)
  - Classic Management Feature Package
  - Network Infrastructure Management Feature Package

Service Portal Express Deployment:

The services described in this SoW are exclusively for the following products:

- Service Portal Express, Release 18.0

Please refer to Exhibit “J” of the Agreement for additional equipment, part number and pricing information.

3 Project Management Services

3.1 Nokia Responsibilities

3.1.1 Description

Nokia will provide Project Management Services for the duration of the project. Nokia will utilize a Project Manager who will function as a single point of contact (SPOC) for District on the project and will coordinate project activities through final delivery of all contracted-for elements, coordinating all in-scope tasks until project closeout. The project manager(s) that is(are) assigned to the project will be guided by the principles of Project Management established by the Project Management Institute (PMI®) in order to plan, schedule, and implement project activities, meeting industry recognized standards of quality, reporting frequency, and control.

3.1.2 Tasks

Nokia shall:

3.1.2.1 Project Initiation and Planning Phase

- Appoint a Project Manager functioning as the SPOC for the project and the clearinghouse for project communications.
- Mobilize resources for all project management functions (if applicable).
- Implement central and regional material management (if applicable).
- Collaborate with District to develop a baseline Project Management Plan, which will include:
  - A description of the project scope, and a plan to manage scope. This includes a delineation of project objectives.
  - Plan to collaboratively review and obtain acceptance of key milestones.

- Schedule Management Plan with a baseline schedule with critical paths, and key milestones. This includes the definition of entry and exit criteria (checklists) for various stages of the project (e.g., site readiness criteria, installation, integration, order completion, etc.) and for the entire project.
- Resource Management plan with a staffing assignment and a Resource Calendar.
- Communication Management Plan, including: District and Nokia involved organization and stakeholders identified with names, plan for joint project kickoff meeting, and reporting structure (periodicity, contents, etc.) for periodic progress meetings to review status and validate the project outlook, covering:
  - Progress meetings: location, duration, frequency
  - Progress reporting contents and format
  - Management report cycle, distribution lists, media
  - Exception reporting and escalations, media, management levels
- Test and Acceptance Plan appropriate to the project and agreed to with District
- Change Management Plan with identification of tools to be used.
- Document and Revision Control plans for hardware, software, documentation, procedures, etc.
- Preliminary timeline with critical dates.
- High level list of all deliverables.

3.1.2.2 Project Execution and Control Phase

- Manage and control the execution to the baseline plan and modify the plan as necessary and as agreed to by stakeholders. This phase includes:
  - Coordinating project activities through final installation/delivery of all contracted-for elements and coordinating all orders until project closeout.
  - Managing project processes, e.g., Change Control, Document Control, Configuration Management, Deliverable Timeliness and Deliverable Quality, etc.
  - Communicating project status (schedule, technical, quality, etc.) using processes and reports determined in the communications plan to District, and collaboratively determine resolution of project scope change requests. Where agreed to, develop custom reports.
  - Managing resources – allocating staff and other resources (e.g., equipment, laboratories, 3rd party suppliers, etc.), getting commitment to project schedule, and having staff trained.
  - Monitoring and controlling the project - comparing actual performance to plan. Recommending preventive or corrective actions. Validating defect correction.
  - Analyzing and tracking project risks to verify that risks are identified, status is reported, and appropriate risk response plans are executed. Escalating and issuing jeopardies, as necessary.
  - Managing change control – identifying changes that have occurred or need to be addressed. Verifying that only approved changes are implemented. Jointly reviewing change requests with District and determining how requests are to be resolved.
  - Documenting and incorporating only approved changes into the project products and services, and documenting the impact of requested changes.
  - Contract Administration – verifying that the deliverables/milestones and obligations per the respective contract documents are achieved/in compliance and notifying District appropriately, if otherwise.

- In case of delays and failures by third parties directly contracted by District, or the failure of such third parties to cooperate with Nokia, Nokia will refer the matter to District for resolution.

3.1.2.3 Project Closeout

- Manage close-out activities, before any necessary resources are released, including:
  - Verify that all activities within the scope of Nokia's responsibility under accepted purchase orders have been completed in accordance with contractual requirements. Update respective contract records.

3.1.3 Deliverables

Nokia shall provide the following:

- Project Documentation to be provided to District on an ongoing basis includes:
  - Progress reports as required
  - Project timeline
  - Other documentation as mutually agreed to

3.2 District Responsibilities

District shall:

- Place timely purchase orders for all goods and services included in the project.
- Provide contact list, including a PM SPOC, of the District managed project resources and stakeholders.
  - Include 3rd party supplier contacts involved in the project
- Identify District SPOC for escalations/issues.
- Provide remote access to systems as required.
  - Provide Nokia with access to District's IT network, as required to perform the Service.
- Provide Nokia with all information reasonably requested by Nokia necessary for the performance of the services, including without limitation providing technical configuration information such as IP addresses, BDFB assignments, alarming scheme and assignments, relay rack locations, circuit assignments (DS3, OC3, T1) as specifically requested by Nokia in connection with this project. This information should be accurate and complete and be provided five (5) days prior to Service initiation.
- Review and approve agreed-to documentation:
  - Review document within five (5) business days from document receipt. At this time, provide comments and requested changes or approve the document.
  - If comments are provided or changes requested, Nokia will review the changes and incorporate changes, where possible, and re-submit a final draft along with a "red-lined" draft of the changes within five (5) business days for review and approval. District will accept such final draft documents or provide a detailed explanation of the remaining deficiencies within five (5) business days.
- Sign off on plans as defined in the Deliverables section.
- In the case of District-provided systems and/or products included in this Project but procured directly by District, ensure cooperation of the other vendors whose deliverables can delay timely completion of project.
- Execute according to the agreed upon plans at hand-off/interface points, including the completion of responsibilities assigned to District in the SOWs included in this project.

- Assist Nokia in discussions with any third party that District requires Nokia to manage within the scope of the project and execute such letters of agency or similar documents as required to authorize Nokia to manage and direct such third parties on District's behalf.
- Secure the cooperation of and any necessary license rights from District third party vendors as required for Nokia's performance of the services.

3.3 Assumptions

- Nokia PM will work remotely and travel at District's request.

4 Remote Network Design

4.1 Nokia Responsibilities

4.1.1 Description

Nokia will remotely perform a feasibility study to evaluate the specific technologies needed for the proposed service or network. This Service applies to the following network per quote 20.US.920324.02

Nokia will evaluate options and then select a network design approach, perform a detailed network design, and provide District with the necessary documentation for implementation of this design based on District's specific objective and constraints.

The network design process will generally include the following phases:

- Project readiness
- Data collection and network analysis
- Network design and technical guidelines

4.1.2 Tasks

4.1.2.1 Project Readiness Phase

Nokia shall:

- Develop the project definition document.
- Define project team roles and responsibilities.
- Establish project timelines and milestones.
- Document project assumptions.
- Document District preferences and requests for how Nokia will perform work.
- Establish project completion criteria.
- Establish project change control process.
- Establish project communications plan.
- Identify project risks and likely impact.

4.1.2.2 Data Collection and Network Analysis Phase

Nokia shall:

- Identify various network design scenarios and models based on District input data and network design criteria taking into account:
  - Single year vs. multiple year design scenario
  - Hierarchical vs. flat network architecture
  - Node locations
  - Transport network layout
- Perform network scalability analysis, including:
  - Identifying functional component and interfaces based on potential network equipment and solution to be used.
  - Modeling network links and equipment hardware (link type, equipment buffer size, QoS priority treatment, etc.).
  - Identifying protocol stacks and end-to-end traffic flow for each service type to be supported.
  - Imposing constraints on network nodes, topology, and traffic distribution (co-located network nodes, specific network topology requirements, dual-homing).
  - Identifying additional signaling, control, and management traffic (e.g., PNNI, H.323, SIP, SNMP).
- Perform network design pre-processing, specifically:
  - Point-to-point traffic demands generation.
  - Creation of transport cost model.

4.1.2.3 Network Design and Technical Guidelines, Phase

Nokia shall provide a detailed design, which includes:

- Network topology – create a high level network topology diagram to show network elements, and the type and size of links interconnecting the elements
- Network nodes – determine total switching capacity and network interface requirements
- Redundant design – determine how redundant network links are added to meet the protection requirement
- Equipment configuration and engineering – determine configuration (e.g., number of switching fabric, processing cards, I/O modules) in network element at each network node
- Traffic engineering – tactical and strategic TE network design (ATM, MPLS, etc.)
- Addressing plan – determine addressing schemes (public and private IP addressing, ATM node addressing, etc.)
- Routing plan – determine routing schemes (e.g., PNNI for ATM, OSPF and BGP-4 for IP/MPLS networks)

4.1.3 Deliverables

Nokia shall provide the following:

- Network Planner's Record (NPR), a compilation of the information developed during the design activities including:
  - Overall network topology diagram
  - Traffic inputs
  - Assumptions made
  - Scenarios investigated

- Summary of design methodology
- Equipment summary by location
- Cost summary
- Addressing plan
- Network performance and failure analysis

- Periodic Status Reports on the engagement

4.2 District Responsibilities

District shall:

- Designate an individual from its organization to serve as District's Project Manager and be Nokia's primary contact with District. The District Project Manager will have full authority to act on behalf of the District with respect to:
  - Approve deliverable items
  - Authorize payments
  - Other activities specified in this SOW
- Provide details of the network environment:
  - Types and locations (coordinates) of network nodes
  - Type of network links (e.g., STM-1, STM-4, or STM-64)
  - Transport network details (leased or owned; cost structure; protection scheme, e.g., SONET/SDH protection, 1+1APS, etc.)
  - Network topology requirements and constraints (flat vs. layered architecture, any prohibitively expensive links)
  - Existing legacy networks (topology and size of network links, number of existing switches or routers, and their configuration [e.g., loading percentage of switching capacity or I/O slots])
  - Existing networks routing schemes/algorithm
  - Target network scalability requirements
  - Target network link utilization or reserved bandwidth
  - Protection requirements (no protection, protection against single link failure, or protection against single link or node failure)
  - District-selected equipment and constraints
- Provide service specifications and requirements:
  - Subscriber/traffic forecast (current and future growth) provided as total number of subscribers for each type of service and/or total amount of traffic (service-specific or generic). Demand may be point-to-point, per access site, or entire network load.
  - Traffic distribution assumptions if traffic demands not provided as point-to-point (equal distribution or weighted distribution [gravitational model])
- Provide performance requirements:
  - Bandwidth allocation
  - Performance metrics
  - Cell/packet delay
  - Call/session blocking probability

- Throughput (at network or application layer)
- Network access/service availability

- Review draft documents provided by Nokia and provide written comments back to Nokia not later than five (5) business days after receipt of the draft.
- Secure the cooperation of District's third party vendors as required for Nokia's performance of the Service.

5 Network Architecture and Design – IP Service Routers

5.1 Nokia Responsibilities

5.1.1 Description

Nokia will work with District to produce a network detailed design which reflects the objectives and requirements for the network solution that has been proposed for this SOW. The design work is done at a Nokia R&D center where design options can be verified in a lab and discussed among the Nokia team of architects. This Service also includes a network migration strategy. The network migration strategy covers the migration of District's existing legacy Cisco ASR9000 node traffic to a Nokia IP/MPLS network in accordance with the network detailed design, and aims at preserving the capability and services offered to existing customers.

The network design documentation will address all networking aspects, such as:

- Physical architecture
- IGP topology and IP addressing scheme of the IP/MPLS network
- MPLS topology and LSP infrastructure
- Element and network security requirements
- QoS configuration requirements
- Service definition
- Resilience model
- Synchronization design
- Failover mechanisms

5.1.2 Tasks

Nokia shall:

5.1.2.1 Network Design

- Lead a services and technical requirements gathering workshop with District to obtain the required information to start the architecture and design process.
- Develop a network detailed design documenting the recommendations and design for the next-generation IP/MPLS project based on the service and network requirements provided by District. The network detailed design will cover the following components:
    - System security (user profile access, management access, ssh/console access)
    - Network management

- Resilience model
- Failover mechanisms
- Naming conventions
- Overview of products used as part of the network design
- QOS (both network and access for SR)
- Ethernet port configuration parameters
- IP addressing scheme
- L3 network interface configuration parameters to enable MPLS infrastructure
- New IP/MPLS network architecture
- IGP design (topology and standardized parameter settings)
- MPLS design (LDP and RSVP) including seamless MPLS design
- Network synchronization
- BGP Design (parameter recommendations, route-reflector design, RFC3107)
- Service designs for existing customer service offerings (standardizing goal design for each) as applicable for the solution proposed:
    - L2 VLLs
    - L2 VPLSs (H-VPLS)
    - L3 VPRNs (IPv4)
- Multicast
    - Identification of application source traffic requirements and network forwarding paths to support Multicast Protocols (PIM, IGMPv2/v3, etc.)
    - Intra/inter domains identification
    - QoS
    - Source Redundancy
    - Scalability, Policies, Resiliency

- Review network detailed design with District and obtain sign off.

5.1.2.2 Network Migration Strategy

Perform an audit of the existing Cisco ASR9000 configurations. The audit will be performed to collect focused information on the current network elements configurations, summarizing its key characteristics, including information pertaining to service, routing, addressing, and timing topologies. The audit will facilitate the migration services described later in this SOW. The audit output will provide the following information:

- Site legacy services architecture
- A breakdown of existing services per site
- Existing bandwidth capacity of services
- Breakdown of GE ports / VLAN services to be translated
- Available timing sources
- Identification of variations from design rules/standards/templates

- The migration strategy will take the following into consideration:
    - Minimizing service outage

- Maintaining QoS across the IP/MPLS network
- Maintaining network redundancy
- Maintaining traffic performance across the network
- Coordination of the migration with District operations
- Completing the migration within the maintenance window
- Providing a back-out plan

- Develop a high level migration strategy, capturing and documenting the following information:
  - Migration scope
  - Identification of the logical migration method
  - The required network logical topology
  - Services migration configuration and their distributions
  - Services migration special cases
  - Technical description of services the migration of the GE / VLAN traffic from the Cisco ASR9000s to the Nokia IP/MPLS network
  - Migration strategy and steps
  - Identification of downtime for the migration, as applicable
  - Testing and validation strategy
  - Maintenance window specific procedures
  - Completing the migration within the maintenance window
  - Identifying clear steps for a roll-back plan
  - Testing in Nokia's labs
  - Validation of end-to-end migration methods
- Review the high level migration strategy (included with the HLD) with District and obtain sign-off.

5.1.3 Deliverables

Nokia shall provide the following:

- Remote network design workshop – up to three (3) days
- High Level Network Design (HLD) document
- High Level Migration Strategy included with the HLD document

5.2 District Responsibilities

- Provide the Nokia network architecture and design team with all relevant service and technical requirements prior to the commencement of the network design.
  - List of all standard services to be provided.
  - List of services/customers with special service-specific or customer-specific requirements (standard and non-standard, and their variant configurations).
  - Definition of service topology hierarchies for Layer 2 (e.g., L2 H-VPLS, PBB) and Layer 3 (e.g., Hub/Spoke, Mesh), on a service by service basis.
- Respond to Nokia technical questions and inquiries for information in a timely manner. Nokia requires turnaround on technical requests within 24 hours.

- Provide knowledgeable personnel to attend the network design workshop, and review and approve the network design in accordance with a schedule to be developed between Nokia and District.
- Provide configuration files from the legacy Cisco ASR9000s.
- Adhere to any provisioning freeze, as specified in the migration strategy, until integration and / or migration is / are completed, and the network is turned over to District.

5.3 Assumptions

- All network elements are designed in a single batch, including all network services for Phase 1 and Phase 2.
- The migration strategy is exclusively for the following:
  - Migrating services from ten (10) Cisco ASR9000s to the Nokia 7750s in Phase 1 of the project
- Changes requested after the sign off of the HLD and High-Level Network Migration Strategy will be subject to Change Control.
- Any District or customer agent provisioning will not be done until after the network is turned over to District.
- All work will be performed remotely.
- If delays to service schedule, once established, are caused by District, additional charges may apply. If applicable, any delay claims arising under the Agreement by Nokia are subject to the provisions of Sections GC-8 and GC-21 of the Agreement.

6 Engineering of – IP Service Routers & Optical Network Equipment

Engineering and Remote Site Survey Services provide the resources needed to deploy the IP and Optics equipment in District's network as more specifically described in the sections below. Engineers collect and assess information about District's on-site and equipment conditions to identify site requirements that may impact the overall deployment. Based upon District input and applicable equipment requirements, engineers prepare detailed specifications and order the required materials to enable efficient installation upon delivery.

Nokia and District responsibilities will be designated with the following:

N	Nokia
C	Customer (District)

6.1 Responsibilities – Remote Site Engineering

6.1.1 Description

Remote Site Engineering will be performed to determine if additional materials or information are needed for completion of the Services under this SOW. The Site Engineering will cover collection of relevant information or data to complete the equipment configuration.

6.1.2 Standard Tasks

	N	C
Perform Remote Site Engineering.	X	X
Provide Site Engineering Results	X	
Provide required site and equipment input information when requested.		X

6.1 Equipment Engineering – Production Locations

Engineering configures equipment requirements based on inputs from District order, completed questionnaires, and/or Remote Site Engineering data. The decisions as to specific equipment needs are based on each component's functionality, capacity, and application of engineering rules associated with each component.

6.1.1 Share of Responsibilities

Task	N	C
Provide District equipment requirements, as applicable for product(s) being deployed		X
Execute first-pass verification and integrity check of District request and/or Order. ▪ Verify that the equipment configuration solution meets District's needs, including any changes that may have occurred since initial District request and quote. ▪ Verify that it meets general high-level compatibility requirements such as equipment availability/orderability, floor space, site/environmental conditions, etc.	X	
Design and configure equipment solution.	X	
Determine/validate placement and layout of new equipment.	X	
Translate commercial Bill of Quantity (BOQ) into a technical Bill of Material (BOM) or develop a BOM when no BOQ exists.	X	
Provide list of assignments for the grounding of equipment and associated framework.	X	
Provide running lists and assignments to run and connect system and interface cables (alarm, communications, fiber, Ethernet, etc.) from shelves to existing demarcation for the equipped ports as specified in the equipment configuration details.	X	
Identify required site material.	X	
Order required site material.		X

6.2 Assumptions

- Concrete floor in non-seismic zone with existing overhead cable rack, vertical and horizontal fiber duct, and cable demarcs (blocks, interface panels, other equipment).
- Existing Power in the rack either by a PDU or Main Power Cable.
- REMOTE SITE ENGINEERING to be performed by Nokia. Engineering document developed based on Site Survey data and District information.
- District should provide accurate site data, as required.
- Engineering document consists of work items, rack layout, circuit pack layout, cable running list and material list.
- After the remote site engineering has been performed, if it is determined that additional engineering effort will be required, a quote will be provided to District for evaluation of the additional charges in accordance with Section GC-11 of the Agreement.

- Remote site engineering schedules and resources will be determined after receipt of District Order.
- Standard loading dock is available for material delivery at street level. Non-standard delivery conditions (such as crane, windows, small door, etc.) will result in additional charges.
- A price quote with additional charges may be provided after the remote site engineering information is reviewed and final site installation material and associated engineering effort is determined.
- Assumes no Signal and power cable racking to be added.

7 Staging Services – Optical Network Equipment

7.1 Nokia Responsibilities

7.1.1 Description

Nokia's Pre-staging Service provides configuration, and testing of network equipment, ***at a Nokia facility, prior to deployment.*** Upon completion, Nokia delivers tested, and ready-for-deployment network elements to District. Staging Services include Initial network element turn-up, software download, and basic system level provisioning (TID, IP Address, Subnet Mask, etc.).

7.1.2 Optical Staging Preparation

- Communicate to the customer the network data needed to allow staging (Span losses, node layout, IP address plan, labeling and naming conventions, etc.)
- Interface with District on staging schedule, and staging content.

7.1.3 Staging Service Planning

Nokia shall provide the following:

- Generate (1) configuration file for each network element as designed to be used for staging.
- Inventory Parts for addition packing list
- Convert packing slips to digital format
- Electronically ship digital packing slips to customer contact who will virtually receive equipment

7.1.4 Staging Service

- Network Element Assembly
  - Allocate equipment to individual sites as requested by customer
  - Verify or set Shelf ID setting from configuration file
  - Remove common boards from original packing and slot them into shelf (2 EC and 2 PF per shelf)
  - Install remaining cards, pluggables and intra nodal fibers per configuration file
- Power Up and Self-Test
  - Power up equipment
  - Verify card and pluggable Activation and alarms
- Load Software and Configuration
  - Load customer ordered software per equipment specifications.

- Provision TID, IP Address, Subnet Mask, etc.
- Provision all equipped transmission parameters via supplied EPT file, e.g., amplifier settings, port rates, topologies, cross connects, etc.

7.1.5 Staged Equipment Shipment

- Packing and Shipment
  - Generate a packing slip for each site
  - Consolidate equipment into one box and attach packing slip to inside of the box
  - Digitally send per site packing list to a designated individual responsible for equipment allocation entries in Customers Database

7.2 District Responsibilities

District shall:

- Provide recommended racks, shelves and ancillary equipment or equivalents for this Service.
- Provide necessary provisioning parameters for EPT generation (TID, IP Address, Subnet Mask, etc.)
- Provide component and wiring labeling requirements, including labels, tags and/or barcodes.
- Coordinate closely with Nokia Engineering on any configuration changes.
- Provide EPT file sign-off for the network prior to staging and deployment.
- Provide shipping data and location(s) for ordered equipment

7.3 Assumptions

- Staging Services defined in this SOW will be performed at a pre-designated facility. Any equipment not staged will be the responsibility of the customer to deploy.
- Staging Level and lead times are factored into the delivery schedule.
- Price includes testing in accordance with Nokia's and/or third-party manufacturer's published specifications and/or standard installation and test procedures, which is to confirm standalone functionality of the individual equipment unit.
- Any changes requested after the configuration file signoff will require a change order and additional charges.

8 Remote Optical Network Integration

8.1 Nokia Responsibilities

8.1.1 Description

Nokia's Remote Optical Network Integration Service supports District's efforts to efficiently deploy and integrate an optical network. Nokia integrates individually installed network elements, preparing them to accept District traffic. This Service is delivered following the completion of installation and standalone testing of the equipment.

Nokia will develop a Customer Test Plan that includes Nokia recommendations, integration test procedures, network design details, network diagrams, system-level/site-specific provisioning information,

and other data as required. Subsequent to District review and approval, Nokia executes the plan and remotely performs site turn-up, integration and testing of District's optical network. At the completion of the Service, Nokia provides a Customer Turnover Package containing all pertinent field results.

8.1.2 Tasks

Nokia shall perform the following tasks:

8.1.2.1 Pre-Integration Activities

- Assign resources for Optical Network Integration planning for the optical network segment.

8.1.2.2 Optical Network Integration Planning

A Nokia Planning engineer will perform the following;

- Review Equipment Design Package (EDP) and Engineering Planning Tool (EPT) files to prepare for the integration and testing of the new equipment into a functioning network utilizing published documentation and standard test procedures.
- Verify with District the integrity of the engineering design of the network, including detailed review of possible points of failures (links, cards, chassis, software etc.)
- Review the integration and standard test procedures with District.
- Verify Optical Network Integration readiness prior to start of Service.

8.1.2.3 1830 PSS Service Addition

Typical remote commissioning support efforts will be as follows:

- Remotely verify the installation and prep work has been completed at the locations.
- Remotely verify that the NEs have no unexpected alarms and are in stable condition.
- Remotely direct the District's onsite technician through the turn up the new 1830 equipment, as detailed in the product documentation (e.g., verify proper transmit power levels, appropriate circuit pack attenuation measurements, etc.). Implement component replacements (such as circuit packs, fiber jumpers, or Line Build Outs), as required during the turn-up.
- Remotely provision required logical cross-connects/associations and signal specifics for equipped services.
- Verify discovery of newly deployed network elements with NFM-T
- Complete troubleshooting of equipment and network issues if required.

8.1.2.4 Testing

- Confirm Interconnection connectivity, as detailed in the EPT file for elements included in this SOW.
- Perform transmission testing tasks, using PM registers and internal testing capabilities, to complete network testing, as detailed in the product documentation (e.g., perform 1hr end-to-end Bit Error Rate Testing (BERT)).
- Verify Alarm free operation of the integrated circuits
- Complete troubleshooting of equipment and network issues if required.
- Verify the Optical Element Management System (NFM-T) connectivity and status if available.
- Document and interpret test results.

8.1.3 Deliverables

Nokia shall provide the following:

- Revised EPT design file as provided.
- MoPs for network element additions
- Final Report specifying all recorded power levels and testing results
- Final Customer Sign Off

8.2 District Responsibilities

District shall:

- Sign off on the Customer Test Plan no later than five (5) business days after Nokia’s delivery of such plan.
- Provide confirmation of Optical Network Integration readiness including the following information:
  - Dark outside plant fibers to connect to proposed optical ring.
  - Any Line Build-outs (LBOs), fibers, and/or cables used in this deployment must meet the manufacturer's technical requirements.
  - Acceptable (as listed by the Fiber Manufacturer and the Optical Equipment specifications) Outside Plant fiber type and Fiber Analysis data on all spans for projects involving OC-192/STM-64 or higher bit rate traffic. Fiber Analysis is defined as Optical Time Domain Reflectometer (OTDR) trace measurements, span loss measurements, Chromatic Dispersion measurements, and Polarization Mode Dispersion measurements. If the Fiber Analysis measurements are not acceptable based on Nokia product specifications, District will perform fiber rework and report the newly captured and analyzed OSP Fiber data to comply with the Nokia optical product specifications.
  - Acceptable (as listed by the Optical Equipment specifications) optical reflectance and Optical Return Loss on each optical fiber path, from the transmitting bay/port to the receiving bay/port. If Optical Return Loss values are not acceptable, District will determine and correct the cause and report new Optical Return Loss values.
  - Verify fiber assignments (e.g., Outside Plant Lightguide Cross-Connect (LGX) relay rack, panel and jack numbers) and connector type for optical equipment.
  - Comply with the Nokia Management System requirements: Provide the required hardware (i.e., router and wide area link, Internet Protocol (IP) or Open Systems Integration (OSI) Address(es), Subnet Mask(s), Default Gateway(s)) and set up the necessary provisioning to connect the gateway network element(s) with the network monitoring location(s).
  - Specify Preferred system-level provisioning information (e.g., Target Identifier(s), synchronization source and signal specifics).
  - Provide a contact list for the District Technical Team (e.g., project management, engineering, operations, Network Operations Center (NOC), site technicians, etc.) for each route or sub-network.
  - Provide completed and signed site-specific installation checklist(s) if District uses non-Nokia Installation, verifying that the installation and standalone testing of the optical networking equipment has been completed.
- Provide Fiber Analysis data fifteen (15) business days prior to the start of the on-site Optical Network Integration activity.
- Provide any necessary technical support and for replacing any spare components on any non-Nokia equipment involved in this deployment.

- Provide Nokia at least ten (10) days notice of any delays expected on the Optical Network Integration readiness date(s).
- Provide the Nokia Optical Network Integration team 24-hour, 7-days per week access (both physical and logical including codes and passwords) to required District resources during the Optical Network Integration activity.

8.3 Assumptions

- Physical equipment installation (by others) of the network element(s) being serviced is a prerequisite for this Service.
- Any change in the listed design will impact the integration estimates. All changes in work are subject to the provisions of Section GC-11 of the Agreement.
- The estimate assumes a transmission test (BER) time for a total maximum duration of two hours, on a newly-configured circuit on the proposed optical network to verify functionality of the protection scheme and alarming capabilities of the equipment. Any additional test will be priced separately. The transmission test will be performed at either the circuit pack ports or at the equipment specific LGX termination ports that are directly connected to the newly installed Nokia optical equipment.

9 Remote Network Integration – IP Service Routers

9.1 Nokia Responsibilities

9.1.1 Description

Nokia will utilize the approved Network Design (including the network migration strategy) to develop the per-network element configurations, including system, routing, interface and network services needed to bring each Nokia router in the designated network to an operational state. Nokia will then test the configurations and verify successful integration into the target network and conformance with the Network Design.

9.1.2 Tasks

Nokia shall:

9.1.2.1 Phase 1

- Establish deployment schedule with the Nokia assigned PM and/or District's PM team.
- Develop an Acceptance Test Plan (ATP), to be reviewed and approved with District, to implement the new network elements.
- Develop configuration files, as defined in the Nokia generated network design documentation, and including network services for all network elements covered by this Service and specifically listed in the "Equipment Configuration" section of this SOW.
- Test and verify the CLI syntax of the configuration files in Nokia's Labs.
- Deliver the configuration files to District's installation teams who will load onto network element a minimum of one (1) week prior to the scheduled installation date.

- Provide remote support to District's installation teams to load the configuration files onto the target network elements.
- Establish remote connectivity into District's network for the duration of the Integration Services period.
- Verify connectivity to the new node once installation has been completed.
- Notify the NOC of intention to start configuration prior to making provisioning additions.
- Perform any additional advanced configuration of the nodes, as needed.
- Perform network element discovery.
- Execute the ATP, which may include, but not be limited to:
    - Validating routing configurations
    - Validating establishment of MPLS LSPs, as applicable
    - Testing network connectivity
    - Testing path redundancy and network resiliency elements as applicable
    - Verifying multicast functionality
    - Verifying provisioned services
- Obtain sign-off from District.

9.1.2.2 Phase 2

- Establish deployment schedule with the Nokia assigned PM and/or District's PM team.
- Develop delta configuration files, as defined in the Nokia generated network design documentation, to add network services for all network elements covered by this Service and specifically listed in the "Equipment Configuration" section of this SOW.
- Test and verify the CLI syntax for the delta configuration files in Nokia's Labs.
- Establish connectivity into District's network for the duration of the Integration Services period.
- Verify the target nodes are fully operational.
- Notify the NOC of intention to start configuration prior to making provisioning additions.
- Load delta configuration files on the 7750s to add the new network services.
- Execute a subset of the ATP developed for Phase 1 of the project to verify the new network services provisioned.
- Assist with end to end testing to verify the new services added.
- Obtain sign-off from District.

9.1.3 Deliverables

Nokia shall provide the following:

- Phase 1:
    - ATP document.
    - Configuration files for all nodes listed in the "Equipment Configuration" section of this SOW.
    - All nodes listed in the "Equipment Configuration" section of this SOW fully configured and integrated.
    - Network services provisioned:
        - A maximum of 675 VLANs – to be migrated from ASR9000s
        - Across a maximum of 150 GE / 10G ports – to be migrated from ASR9000s

- Phase 2:
  - Delta configuration files for all nodes listed in the “Equipment Configuration” section of this SOW to add the following network services:
    - A maximum of 450 VLANs for new sites
    - Across a maximum of 90 GE / 10G ports for new sites

9.2 District Responsibilities

District shall:

- Provide technical personnel to review and approve the ATP and any changes.
- Ensure that all changes in their internal management/DCN network (routers and firewalls) are in place, a minimum of one (1) week prior to the integration activity scheduled start, to ensure connectivity between new network elements and management network.
- Provide remote Internet access to the routers throughout the entire project duration.
- Provide Nokia with the site-specific data required to build the configurations if they were not completely provided during the design phase. This information must be provided at least ten (10) business days prior to the scheduled installation or integration date, as applicable for Phase 1 or Phase 2.
- Adhere to any mutually agreed upon provisioning freeze, as specified in the migration strategy, until integration and / or migration is / are completed and the network is turned over to District.

9.3 Assumptions

- Pre-requisites:
  - The delivery of this Service is contingent upon the availability of an up-to-date network design that was developed by Nokia’s Professional Services. If there is no current, Nokia developed, network design available, a custom SOW is required to cover this integration.
  - The Network Integration Service builds upon the Nokia delivered Network Design Service, and is based upon the design documentation generated by that design service. This documentation can take the form of either a general Detailed Design document, or a combination of High Level and Low Level design documentation. Regardless of the type of design documentation, in order for the Network Integration Service phase to begin, there must be a sign-off of all Network Design documentation between District and Nokia’s Professional Services.
  - The delivery of this Service is also contingent upon the sign-off between Nokia and District, of the High Level Migration Strategy document.
- A network design for the target network and a Nokia developed and approved Network Migration Strategy are available prior to the start of this Service.
- The ATP is approved and signed-off prior to the development of configuration files.
- The ATP development and execution are based on Nokia best practices, and are customized for District’s network. Deviations from Nokia best practices or further customer requested customizations can be discussed and supported via the Change Management process.
- The Nokia developed ATP is to be executed by an authorized Nokia engineer.
- Configuration files are generated prior to the start of integration.
- Configuration files will include network services as follows:
  - Phase 1:

        - A maximum of 675 VLANs – to be migrated from ASR9000s
        - Across a maximum of 150 GE / 10G ports – to be migrated from ASR9000s
    - Phase 2:
        - A maximum of 450 VLANs for new sites
        - Across a maximum of 90 GE / 10G ports for new sites
- Network services are identical between Phase 1 and Phase 2.
- Network element re-configuration work due to non-Nokia attributable reasons will be subject to the provisions of Section GC-11 of the Agreement.
- All work is performed remotely.

10 Remote NFM-T Integration Service

10.1 Nokia Responsibilities

10.1.1 Description

The NFM-T SW installation will be delivered remotely by a Network Management Subject Matter Expert (SME) to Install a new Network Services Platform (NSP) module Network Functions Manager – Transport (NFM-T) and Network Resource Controller – Transport (NRC-T).

As part of this Service, an NFM-T SME will install the pertinent NFM-T software components in District's chosen VMware environment. All preparation work and software installation will be performed remotely.

10.1.2 Tasks

Nokia shall:

10.1.2.1 Preparation

- Prior to installation in District's environment, the NFM-T SME will gather the appropriate information on the following:
    - Workstation hardware and OS specification
    - NAT information, if applicable, and firewall information
    - Type of installation and deployment and license information
    - Platform sizing and compatibility with the NFM-T release
    - Appropriate file system configuration and sizes
    - User configuration, group, default values
- The NFM-T SME will conduct a conference call with District engineers and operators to explain the installation steps and procedure

10.1.2.2 Installation

- Once the platform requirements have been collected and implemented, the NFM-T SME will perform the following NFM-T HW/SW installation/configuration.
    - Check all processes are up and running on all benches
    - Check all NFM-T functionality in off-line mode

- Check all NEs are running with the proper SW release
- GO/NO GO formal meeting with District engineering team

10.1.2.3 Commissioning

- Connect the network elements if the NEs are available during the installation, via the discovery mechanism, to test the connectivity
  - Check all NFM-T processes are up and running
  - Check all NFM-T functionality
  - Discover NEs on the NFM-T if available
  - Check all NEs are discovered properly and are now managed by NFM-T
- Respond to questions related to the NFM-T application installation and operation

10.1.2.4 Post migration activities

Up to 5 business days after migration Nokia shall perform the following remotely;

- Check of NE Supervision and Alarms
- NFM-T Server HW / SW Inventory verification
- NFM-T Consistency Audit
- Audit of Static Configuration (Topology)
- Audit of Dynamic Configuration (Infrastructure connectivity and Services)

10.1.3 Deliverables

Nokia shall provide the following:

- Integrated NFM-T application

10.2 District Responsibilities

District shall:

- Provide Nokia with all relevant service and technical requirements prior to service commencement.
- Ensure VPN access to the hardware server/s designated for the NFM-T, and accessibility of the network elements from that system. Accessibility issues between the network elements and the NFM-T (e.g., access list, firewall, VPN, VLAN, etc.) must be addressed up-front by District prior to the start of this service.
- Respond to Nokia technical questions and inquiries for information in a timely manner. Nokia requires turnaround on technical requests within 24 hours.
- Provide the system hardware for the NFM-T.
- Ensure all network elements to be managed by the NFM-T have been provisioned for management.
- Complete all pre-testing of facilities (if applicable).
- Ensure the workstation hardware is installed, cabled and turned up prior to the scheduling of the NFM-T application installation.
- Provide District engineer to assist with on-site support, if needed (e.g., NOC support for trouble clearing and testing of connectivity between NFM-T and network elements).
- Configure any third-party application (if applicable).

10.3 Share of Responsibilities

The high-level share of responsibilities between stakeholders is depicted below.

Table Legend: N=Nokia; C=Customer (District)

NFM-T Installation and Commissioning	N	C
Initial audit / setup		
Organize platform requirements meeting	X	
Prepare and submit information request	X	
Respond to information request		X
Retrieve system database and hardware specifications	X	
Verify system compatibility with NFM-T module target release	X	
Summarize all the information in a minutes of meeting	X	
Approve minutes of meeting		X
Provide a MOP	X	
Install and configure NFM-T per provided license(s)	X	
Provide NFM-T hardware and license(s)		X
Validate NFM-T operational status	X	
Network element discovery	X	
Respond to questions related to NFM-T	X	

10.4 Assumptions

- The service is for one (1) NFM-T system consisting of the NFM-T OTNE and (1) AI Driver.
- The network elements are remotely accessible from the NFM-T system.
- The network elements are ready for management.
- The workstation hardware is installed, cabled and turned up prior to the scheduling of the NFM-T application installation.
- The required RHEL OS Software is loaded on the VMWare
- North Bound Interface (NBI) (the configuration and / or integration is out of scope)
- All planning, preparation, and System Commissioning is performed remotely.
- Anything not specified above is not included in the service.

11 Remote NSP NFM-P Software Integration

11.1 Nokia Responsibilities

11.1.1 Description

As part of this Service, an NSP expert will remotely install the pertinent NSP NFM-P software components in District’s environment. All work will be performed remotely.

11.1.2 Tasks

Nokia shall:

11.1.2.1 Preparation

- Prior to installation in District’s environment, the NSP Expert will gather the appropriate recommendations on the following:
  - Dedicated hardware or Virtual Machine hardware and Red Hat Enterprise Linux (‘RHEL’, ‘Linux’) OS specification
  - NAT information, if applicable, and firewall information
  - Type of installation and deployment per license information
  - Hardware and Linux OS compatibility with the NFM-P release
  - Appropriate file system configuration and sizes
  - User configuration, group, default values
- The NSP Expert will conduct a conference call with District engineers and operators to explain the installation steps and procedure

11.1.2.2 Remote Software Installation

Once the platform requirements have been collected and implemented, the NSP Expert will perform the following:

- Support installation of underlying OS needed for the target NSP release
- Install the Deployer Nodes
- Install the NSP Clusters
- Install the Oracle Database software
- Install the NFM-P Server software
- Perform router discovery (up to 3 routers), if the routers are available during the software integration, via the discovery mechanism to test management connectivity
- Test to ensure all recommended backup, restore and resynchronizations follow the design and best practices
- Test the activity switch mechanism for a redundant setup (if applicable)
- Respond to questions related to the NFM-P application installation and operation

11.1.3 Deliverables

Nokia shall provide the following:

- Integrated NSP NFM-P application

11.2 District Responsibilities

District shall:

- Provide Nokia Professional Services with all relevant service and technical requirements prior to service commencement.
- Ensure VPN access to the hardware server/s designated for the NSP NFM-P, and accessibility of the network elements from that system. Accessibility issues between the network elements and the NFM-P (e.g., access list, firewall, VPN, VLAN, etc.) must be addressed up-front by District prior to the start of this service.
- Respond to Nokia Professional Services technical questions and inquiries for information in a timely manner. Nokia requires turnaround on technical requests within 24 hours.
- Provide the system hardware, operating system and software specifications for the NFM-P.
- Provide licensed copy/ies of the software.
- Ensure their OS includes the latest OS patches to warrant their system is not vulnerable to any security threats or known software defects at the OS level.
- Ensure all network elements to be managed by the NFM-P have been provisioned for SNMP management.
- For Virtual Machine installs, ensure Virtual Machine has been configured per Nokia recommendations.
- Complete all pre-testing of facilities (if applicable).
- Ensure the dedicated hardware installed, cabled and turned up prior to the scheduling of the NFM-P application installation.
- Provide remote Oracle Integrated Lights Out Manager (iLOM) access to the new hardware platform / environment if available.
- Provide District engineer to assist with on-site support, if needed (e.g., NOC support for trouble clearing and testing of connectivity between NFM-P and network elements).
- Configure any third party application (if applicable).

11.3 Assumptions

- The service is for one (1) NSP NFM-P system.
- The network elements are remotely accessible from the NSP NFM-P system.
- The network elements are ready for SNMP management.
- District has purchased Red Hat Enterprise Linux (‘RHEL’, ‘Linux’) OS support from the RHEL OS vendor.
- District’s OS includes the latest OS patches to ensure their system is not vulnerable to any security threats or known software defects at the OS level.
- The dedicated hardware or Virtual Machine is installed, cabled and turned up prior to the scheduling of the NFM-P application installation.
- All work is performed remotely.
- iLOM access to the new hardware platform / environment is available (if applicable).

12 Remote Network Services Migration – IP Service Routers

12.1 Nokia Responsibilities

12.1.1 Description

Nokia will utilize the Nokia generated Network Migration Strategy document to develop a master migration Method of Procedure (MOP) to remotely migrate the designated network services from the legacy to the target network elements and provide remote support during the traffic migration.

12.1.2 Tasks

Nokia shall:

- Establish deployment schedule with the Nokia assigned PM and/or District’s PM team.
- Develop a master migration MOP, to be reviewed and approved with District, to migrate the traffic from the legacy equipment onto the designated MPLS network nodes.
- Establish remote connectivity into District’s network for the duration of the Network Migration Services period.
- Notify District’s NOC of readiness to start migration support.
- Execute the migration MOP, which may include, but not be limited to:
  - Validating circuit links, network services, as applicable
  - Testing network connectivity on both end points of the service getting migrated
  - Validating that migrated traffic is passing through the designated nodes, as applicable
- Obtain sign-off from District

12.1.3 Deliverables

Nokia shall provide the following:

- Master migration MOP.
- Remote traffic migration support to the designated routers by one (1) engineer for up to a maximum of five (5) maintenance windows.

12.2 District Responsibilities

District shall:

- Provide technical personnel to review and approve the Master migration MOP to migrate traffic from the legacy to the target network elements, as summarized in the “Equipment Configuration” section of this SOW.
- Provide remote access to the target routers throughout the entire project duration.
- Ensure that connections between the existing DSXs connecting to the legacy equipment and the new DSXs connecting to the target routers are pre-wired ahead of traffic cutover.
- Manage end customer schedules and provide support to end customers during maintenance windows.
- Perform any necessary troubleshooting or reconfiguration needed on the legacy gear in support of the migration.

- Provide on-site support at the legacy and the target network elements to perform cable swings, DACS rearrangements and any troubleshooting, as needed, during traffic migration.
- Adhere to any mutually agreed provisioning freeze, as specified in the migration strategy, until integration and migration are completed and the network is turned over to District.

12.3 Assumptions

- Pre-requisites:
  - The delivery of this Service is contingent on the availability of a District baselined network design (HLD and LLD) for the target network or the sign-off between Nokia and District of the Network Design, if the optional service is purchased from Nokia.
  - The delivery of this Service is also contingent upon the sign-off between Nokia and District, of the High Level Migration Strategy document(s).
  - The delivery of this Service assumes that all network services being migrated from the legacy ASR9000s were pre-provisioned as part of the integration service described in the “Network Integration – IP Service Routers” SOW section.
- A network design for the target network and a Nokia developed and approved Network Migration Strategy are available prior to the start of this Service.
- The migration service is for the number and type of network elements shown in the “Equipment Configuration” section of this SOW.
- All network services were pre-provisioned as part of the ““Network Integration – IP Service Routers” service also quoted in this SOW.
- The target network elements are fully operational as an overlay network to the legacy network, including:
  - Routing
  - MPLS configuration (LSP paths, etc.)
  - Managed by the NFM-P
- The network will operate in both current and future mode during the migration.
- The MOP is approved and signed-off prior to the start of migration.
- All work will be performed remotely.
- The migration takes place during maintenance windows.
- The maintenance window is a minimum of six (6) hours long.
- Network element re-configuration work due to non-Nokia attributable reasons will be subject to the provisions of Section GC-11 of the Agreement.
- The existing equipment will not be removed by District until all traffic has been successfully migrated to the target network elements.

13 Service Portal Express Remote Deployment

13.1 Nokia Responsibilities

13.1.1 Description

Nokia will undertake a Service Portal Express deployment service to install District's Service Portal Express instance, verify the installed Service Portal Express and deliver standard training on the use and management of Service Portal Express.

13.1.2 Tasks

Nokia shall:

- Organize a kick-off call with District outlining Service Portal Express deployment steps and procedures
- Install Service Portal Express:
  - Prepare and submit to District a list of information required via a Service Portal Express installation questionnaire
  - Analyze the information provided and ensure that they provide the necessary pre-requisite data and information, highlighting any upfront constraints, risks or gaps
  - Assemble installation collateral
  - Install Service Portal Express as defined in the corresponding installation collateral
- Verification:
  - Perform verification of the Service Portal Express installation
  - Integrate with NFM-P
- Deliver Service Portal Express training:
  - Deliver slide-based training
  - Run hands-on training exercises
- Ensure Service Portal can be used to map subscriber VLANs (voice, video, data) to service provider services using the EVPN for MPLS Tunnels in E-LAN Services model.

13.1.3 Deliverables

Nokia shall provide the following:

- Installed Service Portal Express
- Integrate and certification with NFM-P
- Service Portal Express training delivery and associated materials
- Hands on exercises

13.2 District Responsibilities

District shall:

- Designate a single point of contact who:
  - Can facilitate technical discussions between Nokia and District
  - Is empowered with decision making authority on technical issues
- Make available District’s specialists, engineers and technicians to contribute to the project as needed

- Detail clearly District's business, service, technical and operational requirements
- Respond to Nokia technical questions and inquiries for information in a timely manner (within one (1) business day)
- Provide any updates on constraints, risks or business changes that may impact Nokia project deliverables
- Install all pre-requisite hardware
- Ensure VPN access to the hardware server(s) designated for the Service Portal Express
- Obtain all necessary NSP license keys
- Operational change and release management
- Provide formally approval for the Service Portal Express deployment.

13.3 Split of Responsibility

A successful project requires District and Nokia to cooperate closely to ensure the correct and efficient execution of the project. The high-level share of responsibility between stakeholders is depicted below.

Nokia and District responsibilities will be designated with the following:

NOK	Nokia
C	Customer (District)

Activity	NOK	C
Installation		
Prepare and submit information request	X	
Respond to information request		X
Analyze information provided	X	
Install Hardware		X
Assemble Installation Collateral	X	
Install Service Portal Express as Defined in Installation Collateral	X	X
Verification		
Perform Verification of Service Portal Express Installation	X	
Approve Service Portal Express Installation		X
Service Portal Express Training		
Deliver Service Portal Express training	X	
Run hands-on exercises	X	
Governance		
Hold Kick-off Call with District Outlining Service Steps and Procedures	X	
Appoint Technical SPOC		X
Provide any updates on constraints, risks or business change		X
Ascertain that all technical teams have consistent and up-to-date pre-requisites		X
Respond to Nokia technical questions and inquiries		X
Review draft documents provided by Nokia		X
Provide VPN access to designated platforms and hardware server(s)		X
Obtain All Necessary License Keys		X
Operational Change Management	X	
Operational Release Management		X

14 Schedule / Timeline

- All work shall be completed in accordance with Section SR-2 of the Agreement.
- Nokia requires a minimum of 4 - 6 weeks from receipt of Purchase Order (PO) until Service commencement to accommodate the necessary resource scheduling.

15 Assumptions

General Assumptions:

- Services performed under this SOW will be performed remotely in accordance with generally accepted industry standards. The Remote Services in this SOW are related to Nokia optical and router hardware proposal 20.US.920324.02 provided to District.
- The material and Services offered by Nokia for the project are listed and described within this SOW and its Appendices.
- This SOW assumes that site grounding at the identified locations is sufficient.
- During the implementation period of the project, District will make available to Nokia the spare modules purchased by District for the project. Nokia will bear the cost of repair including shipping charges for any failed spare module during this period.
- District will ensure that its engineering, craft-level and/or supervisory personnel will be available to allow Nokia to perform the work as proposed by Nokia for the project. District will also make available authorized personnel to sign Method of Procedures (MOP) and Customer Acceptance Notices.

Service Portal Express Assumptions:

- The service portfolio to be managed by the Service Portal Express, along with volumetric information, has already been defined.
- The design of the network to be managed, including required OAM tests, has already been defined.
- The operating model for the use, management and support of the Service Portal Express has already been defined.
- The overall OSS architecture into which the Service Portal Express needs to fit has already been defined.
- District’s NFM-P has already been installed and configured.
- The Service Portal Express training is offered for a maximum of 12 students.
- All work (including training) is performed remotely.

16 Exclusions

Any service not expressly included in this SOW is excluded. Among other things, the service(s) listed below, do not include, for example, the following services or tasks.

Network Design does not include:

- Training of District staff

Network Architecture and Design – IP Service Routers does not include:

- Design pertaining to transport planning/availability (e.g., analysis of available fiber/transport options, design of optical transport network, DWDM/CWDM design/wavelength assignments, link budget calculations, specifications of XFPs/SFPs to be used for various inter-nodal transport links)
- Optional designs, except as required to support interface migration – can be custom quoted, as needed:
    - IPSec or firewall services
    - Network Group Encryption (NGE)
    - MEF design for standardized MEF L2 services (e.g., E-LINE, E-LAN, E-TREE, E-ACCESS)
    - OAM (Y.1731, TWAMP, 802.3ah, 802.1ag)
    - Packet Microwave Card (PMC)
    - IPTV, AA, multicast VPN's, BNG, IPv6, CG-NAT, BGP Peering (ISP), PBB services
- Service offerings which District may want to provide in the future.
- Additional service designs or configurations beyond what is outlined in "description / scope" sections above.
- Any service type configuration, variants to those service or hierarchical service topologies that have not been described fully by District prior to commencement of the network design.
- Low Level Network Design ("LLD") document.
- Configuration file examples (these can be provided as part of a Low Level Network Design ("LLD") Service).
- Any design changes requested after the sign off of the design document. These will be subject to Change Control.
- A per node or per service Migration MOP / Cut-Over Plan.

Optical Network Integration does not include the following:

- Provisioning or set-up of an element management system (EMS) or Data Communications Network (DCN) Infrastructure or their components, except Nokia elements.
- Any material or spare components, such as circuit packs, fibers, LBOs, cables, software or flash cards.

Network Integration – IP Service Routers does not include:

- A Method of Procedure (MOP).
- Any integration services for nodes in excess of the numbers listed in the "Equipment Configuration" section of this SOW.
- Additional testing beyond that included in the agreed upon ATP.
- Technical support for the execution of Nokia ATP by non-authorized personnel.
- Any updates to existing District inventory systems.
- Any integration with external 3rd party OSS/BSS systems.
- Any updates/additions potentially required to existing traffic monitoring/planning tools.
- Any provisioning work on District management/DCN network or firewalls required to make the new network elements reachable from the management network.
- The provisioning or testing of new services added directly, by District or its agents, to the new Next Generation IP/MPLS Network.

- The provisioning or testing of any network services in Phase 2 that are not in the baselined network design.

NFM-T Installation and Commissioning does not include:

- The detailed physical design of the network (i.e., design and engineering related to the physical aspects of the network such as cabling, fiber, physical-layer repeaters, passive optical components, power, air flow, and other physical issues)
- NSP Network Platform Design:
  - Network Architecture, High Level Design, Low Level Design documentation
  - Hardware platform and resource requirements
  - Bandwidth requirements
  - Network latency considerations
  - Scalability
- NSP modules:
  - Network Services Director (NSD)
  - Network Resource Controller (NRC-F, NRC-P, NRC-T, NRC-X)
- NSP license
- NFM-T license
- Restore/Build topology maps for the entire network unless specified elsewhere in this SOW
- NSP hardware (standalone workstations or VMware)
- NFM-T hardware (standalone workstations or VMware)
- Hardware installation and / or cabling
- OS RAID deployment, hardening of the OS and disk mirroring OS tasks
- Managed network element configuration, troubleshooting, or NE upgrades of any kind
- Troubleshooting of District developed scripts
- OSS/BSS integration of the network elements, or network management system, with any third-party OSS systems
- Any formal (slide-based) training

NSP NFM-P Software Integration does not include:

- Any software Right to Use (RTU) fees
- The detailed physical design of the network (i.e., design and engineering related to the physical aspects of the network such as cabling, fiber, physical-layer repeaters, passive optical components, power, air flow, and other physical issues)
- Any NSP module not listed in the “Equipment Configuration” section of this SOW
- NFM-P Auxiliary Servers: Client Delegate, Auxiliary Server – Statistics Collector, Call Trace Collector, PCMD Collector, Flow Collector - Auxiliary Database, Analytics Server (these can be custom quoted, as needed).
- NSP / NFM-P licenses
- NSP hardware (standalone dedicated hardware or Virtual Machine)
- NFM-P hardware (standalone dedicated hardware or Virtual Machine)
- NSP Network Platform Design Document (“PDD”) and Configuration Design Document (“CDD”)
- Linux OS software or support

- OS RAID deployment, disk mirroring
- Network element configuration or troubleshooting
- Dedicated hardware or Virtual Machine hardware installation
- Virtual Machine or KVM configuration
- Discovery of more than three (3) Nokia network elements used to verify functionality, provided that the routers are operational at the time of NFM-P integration.
- Discovery and/or management of non-Nokia network elements. Non-Nokia network elements may be discovered through the purchase of Generic Network Element (GNE) licenses and GNE policy configuration services by Nokia professional services.
- OSS/BSS integration of the network elements, or network management system, with any third-party OSS systems
- vCPAA installation and configuration
- Any formal (slide-based) training
- Any service, unless explicitly described in this proposal – e.g., the following are excluded:
    - Re-installation if the NFM-P is moved from one location to another (e.g., staging to production)

Network Services Migration – IP Service Routers does not include:

- A site specific cut sheet including patch panel information and other physical inventory data.
- A node specific MOP, except for Nokia elements.
- Network services configuration – those are provided as part of the "Network Integration – IP Service Routers" Service in this SOW.
- Configuration changes or troubleshooting support for the legacy gear.
- On-site support to perform cable swings, DACS rearrangements and / or any hardware or cabling troubleshooting.

Service Portal Express Deployment does not include:

- Integration of District's network elements into the NFM-P
- Installation or customer-specific configuration of District's NFM-P with the exclusion of the integration of Service Portal Express and Big Red Button functionality
- The detailed physical design of the network i.e. design and engineering related to the physical aspects of the network such as cabling, fiber, physical-layer repeaters, passive optical components, power, air flow, and other physical issues
- The logical design of the network, including OAM test architecture design
- Any deployment or training activity other than for Nokia Service Portal Express software
- On site work

17 Additional Terms

Unless otherwise stated in previous sections of this SOW, the following terms apply to all Services. Additional terms and conditions are per the Agreement.

17.1 Conditions

- Nokia reserves the right to determine which personnel to assign to perform Services. Nokia personnel shall at all times be subject to the employment conditions of Nokia and not those of District. If Nokia personnel are present on District's premises, those Nokia personnel shall respect District's on-site conditions.
- Nokia may use proprietary tools and software for providing this Service. The stated price does not include the sale, licensing or transfer of such tools or software to District.
- All engineering design work will be performed during normal business hours – 8 AM to 5 PM, District local time, Monday through Friday (excluding holidays) and as required for after business hour support for migration and maintenance activities - unless different working hours/schedule have been specified elsewhere in the SOW.

17.2 Change Management

The pricing in this SOW is based upon performance of the tasks and provision of deliverables specifically defined in this document. Requests for additional work activities that are not described in this document are subject to Section GC-11 of the Agreement.

Additional charges may apply if performance or completion of the Service is delayed for any reason attributable to District. Any delay claims arising under the Agreement by Nokia are subject to the provisions of Sections GC-8 and GC-21 of the Agreement.

17.3 Acceptance

Maintenance, management and other recurring services will be reviewed by the District for acceptance after they are performed. For all other services, Nokia shall notify District upon completion of Services by providing to the District the deliverable(s) specified in this SOW. Thereafter District shall have thirty (30) days from the notice to notify Nokia that the Services do not conform to the requirements described in this SOW. Such Services shall be deemed accepted on the earliest of: (1) the passage of thirty (30) days from date of notice of completion with no notice of non-conformance from District; (2) District's actual acceptance; or (3) District's use of the Services pursuant to acceptance of successful network integration and migration.

18 Pricing Summary

18.1 Pricing Notes

- The quoted prices are valid for POs received within 60 days from the date of this SoW.
- All prices are in $US, unless stated otherwise.
- Prices do not include taxes.
- If this SoW is accepted as is, please reference the 20.US.920324.02 quote number on your POs.
- Anything not specifically described above is not included in this SoW.

Network Architecture and Design – IP Service Routers:

- Pricing assumes that District purchases the Network Integration Service for Nokia to implement the network design service quoted here.

Optical Network Integration:

- Service pricing in this SOW is only valid for equipment contained in the BOM represented by the quote number indicated above (see Exhibit “J”, Contract Documents 430-10427). Equipment provided under any other quote number is not covered in this SOW and will require additional services pricing.
- The price for this professional Service shows the labor costs only; no necessary materials are included in these figures.
- The price for this Service does not include any District lab verification or staging activities prior to the start of on-site integration.

NFM-T Installation and Commissioning:

- Changes involving additional scope or an extension of the project timeframe will require a change order in accordance with Section GC-11 of the Agreement.
- The remote upgrade does not include any travel or living expenses.

NFM-P Software Integration:

- Pricing assumes all work is performed remotely and does not include any travel and living expenses.

Services Migration – IP Service Routers:

- Pricing assumes all work is performed remotely and does not include any travel and living expenses.

Service Portal Express Deployment:

- Pricing assumes that all work is performed remotely and does not include any travel and living expenses.

IN WITNESS WHEREOF, the parties have caused this SOW to be executed by their duly authorized representatives on the date(s) indicated.

Nokia of America Corporation	**District Legal Name**
Signature:	Signature:
Name (Print):	Name (Print):
Title:	Title:
Date:	Date:
Nokia of America Corporation	
Signature:	
Name (Print):	
Title:	
Date:	

19 Appendices

19.1 Summary of NSP Services

This Appendix is for Nokia internal purposes only, to aid PM in allocating resources.

Service	Location	SOW Section	Comments
NSP NFM-T Software Integration	Remote	10	
NRC-T Software Integration	Remote	10	
NSP NFM-P Software Integration	Remote	11	

19.2 Service Portal Express: Overview

19.2.1 Software Overview

Nokia’s Service Portal Express software provides simplified network management functionality, delivering simplified monitoring, provisioning, reporting and troubleshooting.

Key features include:

- A secure web-based GUI
- Configurable user roles and domains for scope of command and span of control
- Simplified provisioning of utility-applications (SCADA, Protection, etc.)
- Work orders
- Email notification
- On-demand service Test
- KPI monitoring reports
- Inventory reports
- Advanced on demand troubleshooting

19.2.2 District Benefits

Service Portal Express maximizes operational efficiency and flexibility by providing network management functionality and easy-to-use, consolidated user interfaces for network management tasks. With Service Portal Express, complex tasks can be completed securely, efficiently, and with minimal knowledge of the underlying technical details.

A web-based application, the Service Portal Express features lightweight framework architecture, enabling rapid, cost-effective implementation. The framework-based design makes the Service Portal Express easy-to-use and allows the application to be configured by using to align with predefined rules, network architecture and live-network information. Such an exceptional operational fit preserves investment in existing service architectures, processes, systems and workflows while streamlining operations.

The Service Portal Express provides simple, GUI-driven network and service management workflows for assurance and fulfillment processes such as:

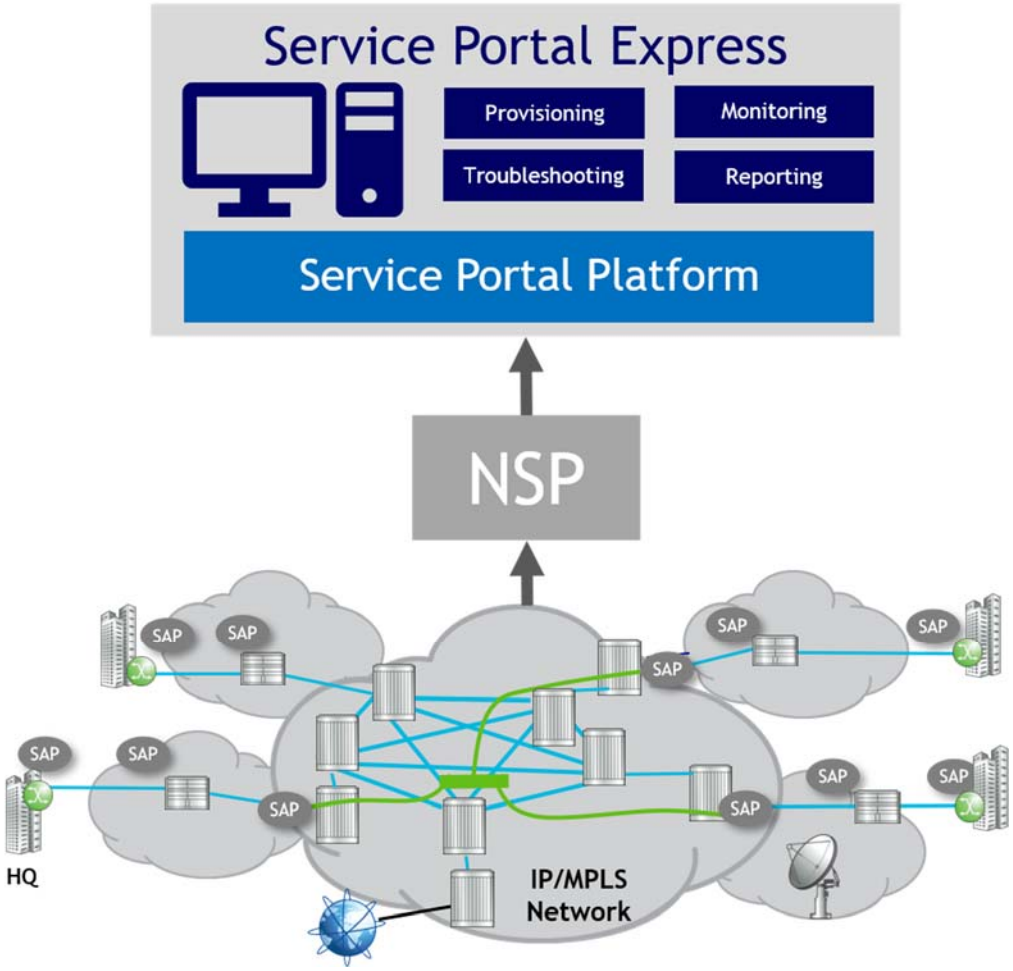
- Proactive assurance and testing
- Real-time troubleshooting, problem detection and resolution
- Performance monitoring and reporting
- Configuration and end-to-end provisioning (SCADA, protection, etc.)
- Work order deployment
- Inventory and metrics reports

Service Portal Express simplifies management across IP/MPLS network management by correlating data, offering fine-grain per-user security profiles, and tailoring the presentation layer for specific users: customer, a network operations center (NOC) operator, a network architect, a first-level customer service representative, a software module manager or even an end-customer.

19.2.3 Leverage the Nokia IP/MPLS Management Solution

Service Portal Express integrates with and leverages features of the Nokia NFM-P through the SAM-O module, which has access to the system’s element management, provisioning and assurance capabilities. Service Portal Express extends NFM-P functions and allows further simplification of workflows. Tightly integrated with the entire Nokia IP/MPLS management solution, Service Portal Express reduces OPEX while speeding time-to-market for new features. Service Portal Express’s development and release cycles are coordinated with those of the NFM-P, making the latest NFM-P features available quickly enough to meet even the most aggressive time-to-market requirements.

Service Portal Express is a turnkey software module built for Utilities IP/MPLS networks. Service provider administrators can also change configuration files to further adapt their Service Portal Express as required.



19.2.4 Key Concepts Supported

User simplification:

- Provisioning – add, change or delete service instances
- Monitoring – view real-time monitoring information
- Reporting – access various reports
- Troubleshooting – launch OAM testing workflows

Domain focus:

- Can be applied to node, site, application or service instance
- Supports report filters, grouping and access controls
- Enables different groups to self-monitor their own services
- Flexible – can define by geography, application, organization, etc.

Application Profiles:

- Set of pre-defined profiles for utility applications (SCADA, Protection, AMI, etc.)
- Quality of Service settings and Key Performance Indicators (priority, CIP/PIR, latency, jitter, etc.)
- Pre-defined profile automatically applied whenever that application is provisioned

- Profiles can be modified

19.2.5 Equipment Configuration

This Service Portal Express release supports the following products:

- NFM-P – Release xx (active and standby)
- 7750 SR
- 7450 ESS
- 7210 SAS
- 7705 SAR
- 1830 PSS
- GNE

See release notes of Service Portal Express for specific node versions supported.

The following products will not be supported:

- [Note to preparer: remove products that are out of scope from the list above, and ensure that the removed products are shown in this excluded list]

19.2.6 Limitations

Service Portal Express does not include the following pre-requisite requirements:

- NFM-P-O module with NFM-P software module
- Provision of a separate hardware platform (Service Portal Express is not to be installed on NFM-P servers)

19.3 Service Portal Express: Features

The following are the features in Service Portal Express.

19.3.1 Service Portal Express – Application Type

The following are generic features of the Service Portal Express:

- Standard network architecture (Service, Access Interface, QoS, KPIs, rules)
- Programmable application types to the same composite service
- Pre-defined applications
- SCADA
- Protection
- Video surveillance
- AMI
- VoIP
- Corporate data

19.3.2 Service Portal Express – Standard Features

The following are standard features of the Service Portal Express:

- Secure web access
- User management

- Pre-defined roles and their scopes for different service portal features
- User authentication with local DB or NFM-P
- User action logging and log viewer
- Support for 50 concurrent web user connections out of up to 5,000 defined users
- Network/ports listings
- Customer management (create, delete, update, view)
- Viewing system health (SPE, NFM-P, JMS, DB)

19.3.3 Service Portal Express – Provisioning

The following are standard provisioning features of the Service Portal Express:

- Epipe, Cpipe, VPLS and extensions of Epipe to VPRN service, VPRN service
- UI Labels, messages, rules of defining service attributes will be configurable.
- Simple provisioning interface
- Service provisioning features:
- Create, update, delete and view detail (includes service status)
- Work orders (pending, rejected, approved, who, when) based provisioning
- Workflows with roll-back.
- Email notification events (on create, delete, update)
- Name/field based QoS policy lookup (configurable at deployment)

19.3.4 Service Portal Express – Monitoring

The following are standard monitoring features of the Service Portal Express:

- Enable monitoring of application services (SCADA, etc.)
- Enable monitoring of ports
- Yearly collection for monitoring of application including alarms, OAM, statistics.

19.3.5 Service Portal Express – Reports

The following are standard reports of the Service Portal Express:

- Card Count Per Node
- CPU and memory utilization summary
- CPU and memory utilization per node
- Node outages
- Physical port statistics
- Port utilization detail
- Port utilization summary
- SAP count per access port (LAG)
- SAP statistics
- Server statistics
- Service count per customer
- Service count per node

- Service executive summary
- Work order summary

19.3.6 Service Portal Express – Troubleshooting

The following are standard troubleshooting features of the Service Portal Express:

- Nodes/ports troubleshooting
- View alarms
- Node ICMP ping
- Real time port monitoring
- A predefined set of CLI commands (configurable at deployment)
- Services troubleshooting
- View alarms for service, SAPs and sites
- Tunnel ping
- Service site ping
- A predefined set of CLI commands (executed on service sites)

19.3.7 Service Portal Express – Topology Map

The following are standard map features of the Service Portal Express:

- Nodes
- Links
- Group of nodes
- Group of links
- Drilling from nodes to details listing forms
- Status of nodes and links
- Accurate and precision maps for worldwide countries/cities/roads.

19.3.8 Service Portal Express – Scalability

- The following are standard scalability numbers of the Service Portal Express:
- 5,000 Physical ports (statistics)
- 2,000 SDP tunnels (OAM testing for latency and jitter)
- 250 Nodes (CPU and memory utilization)
- 5,000 service SAPs (concurrently monitored)

NOKIA

GRANT COUNTY PUBLIC UTILITY DISTRICT

MPLS/DWDM WAN

Contract Documents 430-10427

Exhibit “A.2”

Maintenance Statement of Work

July 20, 2021

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1 Introduction

This Statement of Work ("SOW") describes the deliverables, parties' respective responsibilities and other conditions applicable for the provision of ("Service(s)") by Nokia of America Corporation ("Nokia") for GRANT COUNTY PUBLIC UTILITY DISTRICT ("District"). Performance of the Services described in this SOW shall be governed by the terms and conditions of Contract Documents 430-10427 ("Agreement"). No obligation to provide any of the Services described herein arises until an Agreement has been executed by both parties and an order for such Service, incorporating the terms of this SOW, has been placed by District and accepted by Nokia. In the event of a conflict between the terms of the Agreement and this SOW, the several Contract Documents shall take precedence in the order outlined in Section GC-19 of the Agreement. Nokia's performance of the Services described below is subject to the assumptions, exclusions and other conditions identified in this document.

2 Project Description

2.1 Description

Technical Support Gold (TS-Gold) in support of qty (17) 1830 PSS production shelves, quantity (2) 7750 SR-7 production shelves, and quantity (2) 7210 SAS-Sx production shelves for District's DWDM/MPLS WAN network. Additionally, Return for Repair (R4R) and Advanced Exchange Service (AE), as well as Software Subscription Plan (SSP) is being offered for this equipment.

Technical Support Gold (TS-Gold), Return for Repair, Advanced Exchange 1 Business Day (RES AE-1BD) Software Subscription Plan (SSP) in support of qty (17) 1830 PSS production shelves, quantity (2) 7750 SR7 production shelves, and quantity (2) 7210 SAS-Sx production shelves for District's DWDM/MPLS WAN network.

Nokia Cares services (Technical Support Gold (TS-Gold), Return for Repair Advance Exchange Next Day (R4R-AE-1D) and Software Support Plan (SSP)/Software Release Subscription (SRS) in support of Nokia equipment being deployed in the District Network as detailed below:

Equipment	Quantity	Services	Support Level
Phase 1			
1830 PSS-16II	11	Technical Support	Gold
1830 PSS-16II	11	Return for Repair	Advance Exchange Next Day
1830 PSS-16II	11	Software Subscription	Unlimited
7750 SR-7	2	Technical Support	Gold
7750 SR-7	2	Return for Repair	Advance Exchange Next Day
7750 SR-7	2	Software Subscription	Unlimited
7210 SAS-Sx	2	Technical Support	Gold
7210 SAS-Sx	2	Return for Repair	Advance Exchange Next Day
7210 SAS-Sx	2	Software Subscription	Unlimited

NFM-T High Avail	1	Technical Support	Gold
NFM-T High Avail	1	Software Release Subscription	Unlimited
NFM-P High Avail	1	Technical Support	Gold
NFM-P High Avail	1	Software Release Subscription	Unlimited
Phase 2			
1830 PSS-16II	6	Technical Support	Gold
1830 PSS-16II	6	Return for Repair	Advance Exchange Next Day
1830 PSS-16II	6	Software Subscription	Unlimited

3 Technical Support Service

3.1 Nokia Responsibilities

3.1.1 Description

Nokia’s Technical Support (TS) Service provides District remote access to Nokia engineers in support of product-related questions, troubleshooting assistance, diagnostic procedures, and Patch Releases and Maintenance Releases, as may be made available, to restore service and/or functionality and resolve problems for Maintained Products.

3.1.2 Tasks/Deliverables

Nokia shall:

- Provide District access via phone or email to the Nokia Welcome Center or, if available, via web-based Online Customer Support 24 hours a day and 365 days of the year in order to open an Assistance Request (“AR”). The Nokia Welcome Center will assign each AR a unique trackable number in order to facilitate communication and enable rapid assistance.
- Troubleshoot problems, via phone, or virtual private network, down to Maintained Products component level, or sufficiently to exclude Maintained Products as the root cause. See subsections on “Remote Connection” in the “General District Responsibilities” section below.
- Provide access to Patch Releases or Maintenance Releases for Maintained Products, when available. District shall provide its own means to install such fixes, patches, and updates, as and when made available by Nokia.
- Provide standard instructions for installation of Patch Releases or Maintenance Releases to District.

- For Severity Level Critical (Severity 1) and Major (Severity 2), restore Maintained Products to operational status by identifying defective hardware components or providing software and/or procedural workarounds, where feasible. All software workarounds are licensed subject to the same terms, restrictions, and limitations as contained in the licenses under which the software was acquired.
- Provide 24x7 access to product specific Customer Support content on the Nokia web site if available for the Maintained Products. Customer Support content may include technical product support information, subscription services, and other self-help facilities, as well as the ability to submit non-critical ARs and check the status of ARs online.
- On-site support is not specifically provided as part of this SOW.
- Technical Support covers Maintained Products installed and integrated by Nokia or by District trained by Nokia on self-install and self-integrate programs, if available. Otherwise, issues arising are not covered by Technical Support or may be subject to additional charges.

3.2 Definition of Severity Levels

Severity Levels are defined as the condition of the system when District submits an AR. Nokia defines three (3) severity levels for reported problems, aligning with TL9000 latest release standards. Severity Levels are defined as follows:

- “Critical” (also known as Severity Level 1, SL1): The product or system is inoperative and District’s inability to use the product has a critical effect on District’s operations. This condition is generally characterized by complete system or product failure and requires immediate correction. In addition, any condition that may critically impact human safety is considered a Severity Level 1 Critical problem.
- “Major” (also known as Severity Level 2, SL2): The product or system is partially inoperative but still usable by District. The inoperative portion of the product or system severely restricts District’s operations but has a less critical effect than a Severity Level 1 condition.
- “Minor” (also known as Severity Level 3, SL3): The product or system is usable by District, with little or limited impact to the function of the product or system. This condition is not critical and does not severely restrict overall District operations.

In order to classify a request, Nokia technical support personnel will confirm with District the impact of the reported problem to determine an appropriate classification. Where the parties disagree on the classification of a particular reported problem, District and Nokia technical contacts will discuss the classification in good faith to reach a mutually acceptable classification. In the event the parties are unable to reach agreement on the classification, the reported problem shall be classified at District’s assigned classification level; however, no targets or other performance indicators of any kind shall apply to such reported problem where no evidence has been produced to indicate a business impact.

3.3 TS Key Performance Indicators

The TS key performance indicators (“KPI”), established by Nokia, are dependent on the severity level of the request as reported by District to the TSC via telephone and confirmed by Nokia.

3.3.1 Definition of Key Performance Indicators

- “Respond Time” (also known as Specialist Call-back) means the time period from when District first notifies the Nokia Welcome Center of a reported problem to when a Nokia expert attempts to contact District via telephone or preferred contact method as defined when submitting the request. In the event Nokia is unable to contact District after three (3) attempts, the ticket will be closed.

- “Restore Time” (also known as Remote Neutralization) means a measure of the length of time from when Nokia is contacted and an event is determined to be loss of service and/or functionality affecting, to the time when Nokia provides the means to return a system to operational status.
- “Resolve Time” (also known as Final Resolution Time) means a measure of the length of time from when District first notifies the Nokia Welcome Center to the time when a procedural solution or application of available fix to address the issue is made available to District. This may occur simultaneously with Restore Time, unless the Restore Time is by means of a workaround suitable only for temporary use and Nokia determines that a more suitable permanent solution can feasibly be provided.

The Service Level Agreements (“SLA”) on these KPIs are described in the section “Service Level Agreement Targets.”

3.4 Patch Releases/Maintenance Releases

TS Service includes only Patch Releases and Maintenance Releases as may be made available for Nokia Maintained Products during the Term for use with Maintained Products. TS Service does not include access to Feature Releases. Decisions of which versions of software will be updated, and whether to include a correction in a Maintenance Release as opposed to including it in the next Feature Release, rests in Nokia’s sole discretion. TS Service does not entitle or support District to use optional or new software features resident in a Maintenance Release or Feature Release, except to the extent that District has separately paid the applicable license fees for the use thereof. Nokia shall have the sole right to determine whether a new functionality shall be included in a Feature Release or as an optional software feature.

3.5 License Terms

All software that is ultimately provided in connection with TS Service including, without limitation, Maintenance Releases, Patch Releases or workarounds, are licensed subject to the same terms, restrictions, and limitations as contained in the licenses under which the original software was acquired, reference Exhibit “A.3” of the Agreement.

3.6 Customer Service Delivery Feedback/Escalation

District may escalate a problem or provide feedback on the TS Service that is being delivered or has been delivered. Service Delivery Feedback is for tasks and provision of deliverables specifically defined in this document. District may initiate escalation or feedback by calling the Welcome Center number and ask to speak to the duty manager to escalate an open AR or create a Service Delivery Feedback AR.

3.7 District Responsibilities

3.7.1 District Responsibilities Concerning Nokia Web Site Access

By accessing any Nokia web site to which Nokia affords District access, for or in connection with its TS Service, District agrees to the following:

- District shall not enable or permit Web site access to any person other than its employees, without Nokia’s prior written consent. Such consent shall be at Nokia’s sole discretion.
- If requesting such consent, District shall identify to Nokia any non-employee who District would like to be able to have access to the Web site, and if requested by Nokia, will provide a copy of a Non-

Disclosure Agreement executed between District and the non-employee in accordance with the confidentiality terms of the agreement pursuant to which the Maintained Products were supplied. Such agreement will provide, at a minimum, the level of protection provided in the Agreement to which this SOW is attached. Nokia may refuse consent within its sole discretion.

- District may use and shall require its non-employee contractors or Agents to use the OLCS (Online Customer Support) content only to facilitate its managing and operating the Maintained Products. Other than the limited right to use OLCS content for the purpose described in the preceding sentence, Nokia does not grant any rights, title or interest, explicitly or implicitly, under any patent, copyright, mass work protection right, trade secret or any other intellectual property right. Some OLCS content made available to District may not be made available to non-employees.
- District must notify Nokia in writing immediately of any change in the employment or authorization status of any personnel having authorized access to the Web site.
- Access to OLCS is not available to US embargoed countries. Information on the OLCS website (e.g., product documentation, ticket status, software fixes, etc.) can be provided to customers by their technical support engineer.
- District’s use of any Nokia web site is subject to all Terms of Use then set forth or linked to the web site. Such Terms of Use shall in no event be construed to increase Nokia’s obligations under this SOW nor to create or modify any performance indicators for the Services under this SOW.

Without limiting Nokia’s other rights, Nokia may deny access immediately and in the future to individuals using the web site other than as permitted. Nokia shall have no liability to District on account of such denial.

4 Service Portal Express Maintenance

4.1 Nokia Responsibilities

4.1.1 Description

Nokia will provide maintenance to support of District’s Service Portal Express that will provide the following attributes:

- 90-day standard warranty
- Standard 8x5 support for District’s Service Portal Express software
- Access to the Service Portal Express support team

4.1.2 Maintenance Support Process

Nokia shall:

- All support requests are handled by the Nokia Service Portal team
- Support requests are made via the Nokia Welcome Center
- Nokia Welcome Center will log the issues (in CARE) pre the usual Nokia support process
- The support team will monitor and respond to raised issues per the chosen support SLA
- As a secondary escalation point, the support team can also be reached via a standard email address – serviceportal-support@list.nokia.com

- If a critical service affecting issue is raised, the Welcome Center will notify the Service Portal engineer on call. The Service Portal engineer will respond as per defined SLA
- The Service Portal team will respond to and investigate issues per the defined SLA
- If no maintenance support is ordered, then the warranty is 90 days after the Service Portal Express delivery

4.1.3 Maintenance Support Service Level Agreement Definitions

Priority Description	Response Time	Resolution Time
Critical – Severity 1		
The system is inoperative and Customer's inability to use the product has a critical effect on Customer's operations. This condition is generally characterized by complete system failure and requires immediate correction. In addition, any condition that may critically impact human safety is considered a Severity Level 1 problem. • A reduction in the capacity capability, that is, traffic/data handling capability, such that expected loads cannot be handled • Any loss of emergency capability (for example, emergency 911 calls), or • Safety hazard or risk of security breach. • Critical Severity is only related to existing deployed services.	1 hour from receipt of issue	Investigation continues until issues is resolved or a work around is provided (then the issue will be downgraded to Major with a resolution time of 30 days)
Major – Severity 2		
Severity 2 The system is partially inoperative but still usable by Customer. The inoperative portion of the product severely restricts Customer's operations but has a less critical effect than a Severity Level 1 condition. • Reduction in product's capacity (but still able to handle the expected load), • Any loss of administrative or maintenance visibility of the product and/or diagnostic capability, • Repeated degradation of an essential component or function, or Degradation of the product's ability to provide any required notification of malfunction.	1 business day	Within <30 business days
Minor – Severity 3/4		
The system is usable by Customer, but with limited functions. This condition is not critical and does not severely restrict overall Customer operations. Severity Level 4: The system is usable and a means of circumventing the condition has been found. This condition does not materially affect Customer's operations	3 business days	Within business 180 days

4.2 District Responsibilities

District shall:

- Designate a single point of contact who:
  - Can facilitate technical discussions between Nokia and District

  - Is empowered with decision making authority on technical issues
- Make available District's specialists, engineers and technicians to contribute to the project as needed
- Detail clearly District's business, service, technical and operational requirements
- Respond to Nokia technical questions and inquiries for information in a timely manner (within two (2) business day)
- Provide any updates on constraints, risks or business changes that may impact Nokia project deliverables
- Install all pre-requisite hardware
- Ensure VPN access to the hardware server(s) designated for the Service Portal Express
- Obtain all necessary NSP license keys
- Operational change and release management
- Provide formal approval for the Service Portal Express deployment.

4.3 Assumptions

- The service portfolio to be managed by the Service Portal Express, along with volumetric information, has already been defined.
- The design of the network to be managed, including required OAM tests, has already been defined.
- The operating model for the use, management and support of the Service Portal Express has already been defined.
- The overall OSS architecture into which the Service Portal Express needs to fit has already been defined.
- District's NFM-P has already been installed and configured.
- The Service Portal Express training is offered once, virtually, to an unlimited number of students. The training will be recorded, and a copy of the recording will be provided to the District for future training needs. The recording will be deemed Nokia Confidential Information.
- All work (including training) is performed remotely.

5 Software Subscription Plan (SSP) / Software Release Subscription (SRS)

5.1 Nokia Responsibilities

5.1.1 Description

Nokia will make available all Feature Releases of software for network/node elements, management systems for specific network elements or families of network elements, and other network-related applications at Nokia's sole discretion. The products to which this Software Subscription Plan (SSP) / Software Release Subscription (SRS) service is entitled are listed in the Appendix.

5.1.2 Tasks/Deliverables

Nokia shall provide the following:

5.1.2.1 Access to Feature Releases

Provide, as may be available, and in Nokia’s sole discretion, any Feature Releases for Products, provided they are within the Generally Available phase of their lifecycle. No releases are available for manufacture discontinued (“MD”) products.

Feature Releases may also include provision of third-party software upgrades, as may be made available by the third-party software manufacturer, if the third-party software is supported by Nokia and was licensed to District by Nokia.

Feature Releases encompass the products that are purchased by District, as set forth in the Pricing section and the “Maintained Products and Scope of the Services” or “Products Covered” section of this SOW; provided, however, if a Feature Release contains a new feature for such product(s) for which an additional license or activation fee is required, this must be purchased separately by District; otherwise, it is not included in the Services, and will not be provided to District.

- **Distribution of Feature Releases**: Releases will be provided via Internet download on the Nokia Support Portal.
- **License Terms of Feature Releases**: All software that is provided in connection with the Service is licensed subject to the same terms, restrictions, and limitations as contained in the licenses under which the original software was acquired, reference Exhibit “A.3” of the Agreement.
- Release Notes
- Provide the associated Release Notes applicable to the software and hardware revisions supported by the Feature Release and a list of all changes and additions to the latest release. Any procedural updates that are impacted by the Feature Release will also be provided.

5.1.2.2 Firmware for Control Cards

If required, provide new or an upgrade to firmware specific to the control card(s) of the relevant Products. (Does not include line card firmware).

5.1.2.3 Access to Patch Releases and Maintenance Releases

Provide, as may be available, and in Nokia’s sole discretion, any Patch Releases and Maintenance Releases for the Products.

- **Distribution of Patch Releases and Maintenance Releases**: Releases will be provided via Internet download on the Nokia Support Portal.
- **License Terms of Patch Releases and Maintenance Releases**: All software that is provided in connection with the Service is licensed subject to the same terms, restrictions, and limitations as contained in the licenses under which the original software was acquired.

5.1.2.4 Product Upgrade Procedure

Provide a generic procedure document on how to upgrade the Product(s) located on the Nokia Support Portal.

5.2 Limitations

The following items must be purchased separately by District in accordance with Section GC-11 of the Agreement or under separate agreement:

- Any modifications to any parts of the network which are deemed by Nokia necessary to accomplish network compatibility with a Feature Release.

- Any additional products required to take advantage of any new functionality within a Feature Release.
- Any additional software licenses required to support growth in the network of hardware or software (e.g. nodes, subscribers, etc.).
- Any features in a Feature Release for which an additional license or activation fee is normally required.
- Where required, a minimum of twelve (12) weeks lead-time must be provided for all Firmware orders (i.e. PROMs – Programmable Read-Only Memory).

5.3 Conditions

- District must purchase the Service for a minimum period of time.
- District must purchase the Service in conjunction with Software Support Services (Technical Support).
- For each product listed in the Appendix, the quantity specified must include all such parts found in District’s network. Coverage for a subset of deployed products in District’s network are not permitted.
- After the Effective Date of the Services under this SOW, to account for any changes to the network elements or quantity of software licenses above and beyond those listed as products covered in the Appendix, one of the following schemes applies:
  - Network Growth Scheme 1: A Change Order shall be executed in accordance with Section GC-11 of the Agreement.
  - Network Growth Scheme 2: A new, separate agreement shall be executed.
- If District terminates the Agreement prior to the expiration of the Term, and then wants to re-subscribe to this Service at a later date, such Service will not be provided unless and until District has reimbursed Nokia in accordance with Section GC-3 of the Agreement.
- Prices are based upon purchase of the Service for the entire agreed Term. Suspension of work or termination other than for default shall be in accordance with Section GC-3 of the Agreement.

5.4 Possible New Release Roadmaps

The forecast of future software releases (“product roadmap”) is provided by Nokia solely to inform District of Nokia's plan of record for the relevant product(s) and both parties to this SOW hereby agree that such information does not form a commitment of any kind on either party in relation to this contract. There are no penalties, liquidated damages or other remedies associated with changes to the product roadmap including cancellation of any specific feature or functionality or delay in the timing of development.

5.5 District Responsibilities

Prior to the commencement of this SSP Service, District shall:

- If necessary, upgrade the entitled products listed in the Appendix to the specified release level. All expenses, including but not limited to hardware, software, third-party products, or installation, are solely the responsibility of District.
- Nokia Software Support Service (Technical Support) must be in effect prior to the delivery of the SSP/SRS Service.

During the SSP/SRS service term, District shall:

- Provide commercially available computing hardware for the Products according to product specifications, except in those cases where Nokia provided such computing hardware.

- Allow Nokia, if Nokia deems it necessary, to verify the accuracy of the reported parts shown as products covered table in the Appendix by reasonable means.

5.5.1 District Responsibilities Concerning Nokia Feature Release Download Service

- District must designate contact(s) within their organization who is/are responsible for receiving the Feature Releases and will communicate such contact(s) in writing to Nokia.
- District shall not enable or permit download access to any person other than its designated contact(s), without Nokia's prior written consent. Such consent shall be at Nokia's sole discretion.
- If requesting such consent, District shall identify to Nokia any non-employee who District would like to have access to the download site, and if requested by Nokia, will provide a copy of a Non-Disclosure Agreement executed between District and the non-employee in accordance with the confidentiality terms of the agreement pursuant to which the products were supplied. Such agreement will provide, at a minimum, the level of protection provided in this contract. Nokia may refuse consent within its sole discretion.
- District will remove employees' access immediately upon employment separation by locking and removing employees' email account.
- District's use of any download site is subject to all Terms of Use then set forth or linked to the download site. Such Terms of Use shall in no event be construed to increase Nokia's obligations under this SOW nor to create or modify any performance objectives for the Services under this SOW.

Without limiting Nokia's other rights, Nokia may deny access immediately and in the future to individuals using the download site other than as permitted. Nokia shall have no liability to District on account of such denial.

5.6 Term

Term: The "Term" shall refer collectively to the Initial Period and Renewal Terms as described below.

Initial Period: In accordance with Section SR-2 of the Agreement, the "Initial Period" of this SOW for Maintenance Service will begin on the day the Notice to Proceed for Milestone No. 3 is issued by the District and will continue for a period of two years.

Renewal Period: District coverage under this SOW for the Services shall be renewed for successive one-year terms (each a "Renewal Term") in accordance with Section GC-11 of the Agreement or under separate agreement unless either party gives written notice of intent to not renew no later than 60 days prior to the expiration of the Term then in effect. The prices and terms of Service for a Renewal Term shall incorporate any modifications of which Nokia has provided District written notice prior to the start of the Renewal Term. District shall place a confirmatory purchase order for each Renewal Term prior to the first day of that Renewal Term.

Prices are based upon purchase of the Service for the entire agreed Term. Accordingly, suspension of work or termination other than for default shall be in accordance with Section GC-3 of the Agreement.

6 Repair & Exchange Services

6.1 Nokia Responsibilities

6.1.1 Description

Repair & Exchange Services (RES) provide repair or exchange of defective, customer-owned hardware (Parts). SLAs applicable to this SOW are listed in the “Service Level Agreement Values” section and include various options for Advanced Exchange (RES-AE) and Return for Repair (RES-RFR).

6.1.2 Tasks/Deliverables

Nokia shall:

- Repair or exchange from Nokia inventory RES Entitled Parts at District’s request. Repaired or exchanged Parts may contain components that are used, remanufactured or refurbished. Exchanged Parts will be Form, Fit and Functionally compatible.
- Deliver repaired or exchanged Parts to District’s Entitled Site, or to a District specified site suitable for customs clearance processing, by the applicable RES Delivery Deadline, in accordance with INCOTERMS 2000 defined Delivered Duty Unpaid (DDU) or Delivered Ex Ship (DES) or Delivered Ex Quay (DEQ) when applicable.
- Provide a specific form to be used by District to record the failure description of the Part.

6.1.2.1 For Advanced Exchange (RES-AE)

- Upon receipt and acceptance of a Part Request from District, provide a Functioning Part from the list of RES Entitled Parts. The Functioning Part is delivered within the RES Delivery Time in advance of the Defective Return from District except for RES Entitled Parts:
  - Parts that require custom configuration before dispatch.
  - Parts that require software installation before dispatch.
  - Parts that exceed 60 lbs (27 kg).
- Provide instructions on where District is to ship Defective Returns.
- Notify District within thirty (30) days if District has failed to meet their obligations concerning the prompt return of defective Parts.

The Service Level Agreements on these KPI are described in the “Service Level Agreement Values” section.

6.2 District Responsibilities

- District is responsible for including all relevant documentation with each returned Part including failure description, diagnostic test results, or some other indication suggesting that a Part was suspected to be faulty or in need of replacement, serial number, and a reference to Nokia’s assigned Part Request Number. All such documentation and identification must be attached to the exterior of the shipping container.
- District will assist in efforts to minimize the number of No Fault Found (NFF) conditions through utilization of technical support services as appropriate; reference to, and compliance with, manufacturer’s diagnostic procedures; and by remaining familiar with Nokia’s and the manufacturer’s published references.

- District is responsible for providing adequate packing material to protect against a reasonable risk of damage that would normally occur during shipping by common carrier.
- District will handle electrostatic discharge (ESD) sensitive material in an appropriate manner including the use of ESD protection packaging and will take appropriate actions to avoid ESD damage.
- District must always provide the specific Part that was reported as suspected faulty and requested for repair or exchange.
- When applicable, District is responsible to maintain and provide all necessary government authorization (permits and tax identification, as examples) and documentation necessary to facilitate customs clearance processing.
- District is responsible to maintain and provide proof of delivery for all Parts shipped to Nokia.
- District is responsible to ensure that their requested delivery site is ready to receive repaired or exchanged Parts. Delays caused to Nokia or repeat attempts by Nokia to deliver services due to District's site not being ready relieves Nokia of its RES Delivery Deadline obligations and may be billable at Nokia's then current rates.
- **For RES-AE:** Upon receiving the replacement Part, District will ship or return the reported defective Part to Nokia within five (5) Calendar Days. In order to be compliant, the Parts must be in the possession of Nokia or a Nokia designated logistics or transportation agent within fourteen (14) Calendar Days. District will follow the shipping instructions for returning defective Parts to Nokia and will use the return label if one is provided by Nokia or its authorized logistics agent. District's failure to comply with these responsibilities will be treated as Unreturned Parts.

6.3 Part Request Process

- District shall first diagnose and isolate a faulty Part and accurately identifies the suspected faulty Part identification number or code. A consultation with a Nokia technical support agent may be required via the opening on AR at the Welcome Center.
- To initiate a Part Request, District shall call the designated Nokia Welcome Center or, optionally, initiate a Part Request through the designated Nokia internet portal if available or, optionally, through an email request. District must initiate all time-critical Part Requests through the Welcome Center.
- District is expected to provide the following information:
  - Requester's company name
  - Requester name, phone number, & email address
  - Maintained Product name and the RES Entitled Part name
  - Service
  - Entitled Site company name and ship-to address
  - Entitled Site contact name, phone number & email address
  - Part serial number(s)
  - Nokia assigned service agreement number

6.4 Unreturned Parts

If District fails to return the reported defective Part to Nokia as specified or returns material that is excluded from coverage as specified in "Exclusions" section, District agrees to pay Nokia the published list price for the Advanced Exchange Parts and $500 per item in restocking fees. When informed of Unreturned Part instances by Nokia, District will acknowledge notification of such instances within fourteen (14) days and

will issue to Nokia an approved purchase authorization within thirty (30) days of Nokia’s notification such instances, or else provide documented evidence that Nokia’s claim of Unreturned Parts does not apply.

7 Reporting & Review

7.1 Nokia Responsibilities

7.1.1 Description

Reporting and Review gives visibility to District of the Technical Support Service provided by Nokia.

Nokia records in a database all Assistance Requests with related parameters (e.g., severity level) which District reports to Nokia. This database, managed and maintained by Nokia, contains valuable information to ensure that all Assistance Requests are followed all the way through to resolution.

The database stores reports and analysis on the status and progress of Assistance Requests. At any time, District can have access to the database to check the status of the Assistance Request reported.

In accordance with Section GC-20 of the Agreement. District and Nokia may, based on mutual agreement, hold regular review meetings in order to monitor Nokia performance in the execution of the Technical Support Services, based on Nokia standard Key Performance Indicators.

For additional consultation and support beyond that described above, Customer Technical Advocate (CTA) may be purchased in accordance with Section GC-11 of the Agreement or under separate agreement.

8 General District Responsibilities

District shall:

8.1 All CARE Services

- When reporting an AR, and in order to have the AR validly created:
  - Include Severity Level of problem, outage status, product name, contract number, submitter name & location, callback telephone number and/or email address, system name & location, type and serial and/or license number, and alternate contact.
  - Provide all information necessary for Nokia to provide the Services without delay on the Maintained Products. This includes, without limitation: identification of the releases of the Maintained Products; network configuration; evidence of problem on the Maintained Products; logs, traces and product diagnostic results for the Maintained Products and for all the components of the environment of the Maintained Products; evidence that resources allocation has been aligned with Maintained Products needs, as defined in Maintained Products’ documentation; already performed actions; any information to help reproduce the conditions under which the trouble occurred.
  - Ensure that only submitters that are trained by Nokia on Operations and Maintenance of the Maintained Products are entitled to report an AR. District shall keep updated and shared with Nokia the list of entitled submitters.
- Ensure that the Maintained Products are, over time, installed, configured, operated, administrated and maintained in accordance with Nokia’s applicable installation, configuration, operation, administration, and maintenance specifications. If Nokia has reason to believe that District is not over time compliant

with these specifications, then District shall allow Nokia to perform an audit of its network, which may lead to the decision to revalidate the Maintained Products, at District’s expense.

- Notify in writing any changes in the environment of the Maintained Products that impacts or may impact the operational condition of the Maintained Products, no less than thirty (30) days prior to the change, even if this change is aligned with Nokia’s applicable installation, operation, administration, and maintenance specifications.
- Ensure the implementation of all software updates, firmware updates and hardware changes required by Nokia within a reasonable time, not to exceed sixty (60) days from the date of availability.
- Ensure that adequate resources are made available to Maintained Products, as defined in Maintained Products’ documentation. In case of a software only product, the resources include, but are not limited to, CPU, memory, IO disk & network.
- Notify in writing any changes in Maintained Products (as described in section or appendix covering “Maintained Products and Scope of the Services”) including, but not limited to quantity or location of Maintained Products, no less than ninety (90) days prior to the start of the initial or renewal Entitlement Term or to any changes to the Maintained Products or any changes in the Sites.
- Allow Nokia, if Nokia deems it necessary, to verify the accuracy of the Maintained Products status by reasonable means.
- Grant Nokia access to the inventory information of the Maintained Products at least twice a year, either by allowing Nokia to retrieve this information remotely, or by providing this information to Nokia.
- Keep a logbook in which all events relevant for the performance of the Services shall be recorded. This logbook shall at all times be available to Nokia.
- Maintain a procedure external to the software programs for regular back-up (software, configuration) and for reconstruction of lost or altered files, data, and/or programs.
- Perform initial problem diagnostics and analysis to isolate the problem to Maintained Products.
- Ensure availability of employees which are trained by Nokia on Operations and Maintenance of the Maintained Products to assist Nokia’s personnel. This may include, without limitation, assistance in performing additional tests, and gathering additional information. Any delay time caused by District shall be deleted from KPI measurements.
- Customer responsibilities when solution is a VNF deployed on a Virtual Network Function Infrastructure (VFNI) not supplied by Nokia:
  - Maintain the cloud environment, the VFNI such that the Nokia-specified resources are continuously available to the VNF. Events resulting from non-availability of resources are the responsibility of the Customer to resolve independent from Services.
  - Perform a Baseline Verification Test together with Nokia, including a verification that the Nokia-specified environmental resources (bandwidth, data storage, communication response times) of the VFNI are available to the VNF prior to the commencement of maintenance services.
  - When triggering AR, Customer must provide the result of the diagnosis tools from all the components of the VFNI.
  - Notify in writing any changes in the VFNI that impacts or may impact the operational condition of the Supported Products, no less than thirty (30) days prior to the change, even if this change is aligned with Nokia's applicable installation, operation, administration, and maintenance specifications.
  - Customer is to implement all software updates/patch in all field systems as required by Nokia within a reasonable time, not to exceed sixty (60) days from the date of availability, unless patch contents do not meet District requirements or produce an unacceptable conflict. After 60-days contents of the

update will be considered accepted. Further tickets regarding occurrences of an issue resolved by an undeployed software update/patch will be referred to the pre-existing resolution.

8.2 Remote Connection

Remote Connection is mandatory for Nokia to be able to provide the Technical Support Services for the Maintained Products.

An exception is 1357 ULIS or other lawful intercept products for which law enforcement agencies may prohibit remote connection. Support of such products is provided by telephone and Nokia will work with District’s on-site authorized personnel to troubleshoot problems. Specific Service Level Agreements (“SLA”) described, if applicable, in the section “Service Level Agreement Targets” then apply.

The Remote Connection can be established from Nokia’s local site, one of the Nokia TSCs (Technical Support Center), the Nokia TEC (Technical Expert Center), Nokia NOC (Network Operations Center), or from an OEM Company or third-party service provider (contracted by Nokia for providing support Services for OEM software or hardware).

District shall at its risk and expense provide Nokia with the necessary infrastructure to complete a remote connection to the Site, per District standards. A Remote Connection with the following mandatory characteristics must be available:

- Secure solution based on a permanent LAN to LAN IPSEC using efficient security solution (e.g., firewall)
- Minimum bandwidth of 2MBits/s in both directions
- Transfer file system enabling large file transfer through secure connections (e.g., SFTP)
- Multi session system enabling a parallel connection of experts, through secure connections (e.g., SSH)

- The Remote Connection should not:
  - Require a dedicated internet line
  - Rely on any hardware token system

If, due to reasons beyond the control of Nokia, the Remote Connection cannot be established or is established with unsatisfactory quality or bandwidth, the KPIs specified in the “Service Level Agreements” shall be extended for the same period during which the Remote Connection could not be established. In this situation, skilled personnel may be sent to the site to resolve the problem following execution of a Change Order in accordance with GC-11 of the Agreement.

9 Service Level Agreement Targets

This section describes the SLA selections applicable to the Technical Support Service(s) covered by this SOW.

9.1 Unified SLA for Technical Support (TS) (“SLA Targets”)

Service Level	Gold

Welcome Center		24/7		
AR Problem Classification		**Critical**	**Major**	**Minor**
Technical Support	**Support Window**	24/7		
	Respond (1)	30 M	1 H	NBD
	Restore (2, 3, 4, 5)	6 H	12 H*	
	Resolve (6, 7)	45 CD	90 CD**	NT
KPI Achievement (8)		92%		

Legend:
AR = Assistance Request (trouble ticket)
BD = Business Day of applicable Nokia technical support facility
BH = Business Hours of applicable Nokia technical support facility
CD = Calendar Day
D = Day
H = Hours
M = Minutes
NBD = Next Business Day of applicable Nokia technical support facility
NT = No Target. Nokia will use commercially reasonable efforts to perform the corresponding activity, if feasible at Nokia's sole discretion.

General Notes:

- SLA Targets do not apply to NOS Products.
- SLA Targets do not apply to 1357 ULIS.
- SLA Targets do not apply to Fixed Network CPE devices, SLAs are provided during Epidemic Conditions. In addition, the SLAs are for service providers only, not subscribers. See CPE SOW for details.
- Only Major and Minor ARs may be raised against non-service affecting tools, commonly referred to as Radio Network Engineering & Performance products, including, but not limited to the following: 9352, 9952 WPS, 9351 WQA, 9155/9355 RNP, 9156 RNO, 9157 Laser, 9357 SDA, 9358 RFO, 9958 WTA, 9159/9359/9959 NPO, 9981 CMS.
- SLA Targets apply to Maintained Products running on hardware and software Releases that are in GA status.
  - TS Service (and by extension, SLA Targets) will not be provided for hardware and software Releases in Support Ended status.
  - SLA Targets are not provided for any Maintained Products in a pre-GA status unless specifically established in writing.
  - SLA Targets are reduced for all other Maintained Products' hardware and software Release statuses not outlined above. Some exceptions may apply. Actual SLA Target reductions are available upon request.

Specific Notes:

1- Critical ARs can only be opened by phone. For Major and Minor ARs opened via the web, 5 minutes will be added to all Respond targets submitted via Nokia's on-line web form. For Major and Minor ARs sent to Nokia via email, 60 minutes will be added to all Respond targets.

2- Restore targets only apply to outage conditions (service or functionality) that can be entirely neutralized remotely. If an on-site intervention is necessary, the travel time to arrive at Site is added to the Restore time target or discounted from the Restore interval. Additional fees may apply.

3- If on-site intervention is required to resolve a hardware problem (e.g., replacing a faulty Maintained Products), the Restore target is temporarily suspended during that time period. It will restart once the hardware problem is corrected (e.g., a new or repaired Maintained Products is installed in the network).

4- If District requires a service window (i.e. scheduled downtime of the network) to address a reported problem, the scheduled interval will not be included within the Restore time, since during the scheduled period Nokia cannot perform activities.

5- Target does not apply when Maintained Products are not installed in redundant configurations, if available.

6- Target applies when solution does not require a design change or development of software code. If a design change or development of software code is required, it will be available as determined by the software development team.

7- For CDMA Networks, Target does not apply if problem cannot be reproduced by either Nokia or District's system, the latter verifiable by Nokia.

8- This is measured as a percentage of the total number of ARs that will meet the indicated target for each classification over a rolling four quarters.

Specific notes for connected 3rd party ONT, MDU, CPE:

- If a third party ONT, MDU or CPE is connected to the maintained product, directly or indirectly, or when third-party issues are identified, Nokia has the right to suspend the SLA until it is clearly determined that the issue is to be solved on the maintained product.

Specific notes for Nokia Deepfield Analytics & Security products:

- SLA targets do not apply in circumstances where:
  - Traffic or data sources (routers, switches, etc.) from Customer's network exceeds the agreed-upon limits or origins.
  - Any failure of technology, hardware, systems, data or software (including any Customer applications) that interface with the Products deployment which are either supplied by Customer, through Customer's third-party arrangements or business relationships.

9.2 For Repair & Exchange Service (RES)

Advanced Exchange 1 Day (AE-1D) Provides Advanced Exchange Services prior to the RES Delivery Deadline of 1 Calendar Day for Part Requests accepted prior to the following RES Request Deadline:	
RES Request Deadline	**RES Delivery Deadline**
5:00 PM Sunday	5:00 PM Monday
5:00 PM Monday	5:00 PM Tuesday
5:00 PM Tuesday	5:00 PM Wednesday
5:00 PM Wednesday	5:00 PM Thursday

5:00 PM Thursday	5:00 PM Friday
5:00 PM Friday	5:00 PM Monday
5:00 PM Saturday	5:00 PM Sunday
Unless Saturday or Sunday delivery is specifically requested by Customer, Parts will be scheduled for delivery on the next Business Day.	

10 Exclusions

Any service not expressly included in this SOW is excluded. Among other things, the service(s) listed below, do not include, for example, the following services or tasks.

CARE Services do not include:

- Support when the District responsibilities as described in sections “District Responsibilities” are not realized.
- Support for custom software features not named in this SOW as Maintained Products, that is, any features that are not present in the generally available version of the Maintained Products.
- Creating or making corrections to District-specific reports.
- Providing District specific instructions for installation of Patch Releases or Maintenance Releases by District.
- Making specification changes or performing services connected with relocation of the Maintained Products.
- Support for non-maintained products, whether or not they reside on the same computing hardware platform on which Maintained Products reside.
- Assistance or service, including without limitation, modification or replacement of the Maintained Products, repair of damage, or increase in service time caused by or required as a result of any of the following:
  - Failure to continually provide a suitable operational environment with all facilities prescribed by the applicable product specifications document including, but not limited to, the failure to provide, the failure of, or faulty, adequate electrical power, air conditioning, or humidity, dust control.
  - Use of the Maintained Products in a manner not in accordance with its specifications, operating instructions, or license-to-use.
  - Maintenance, repairs, or other services resulting from casualty, catastrophe, natural disaster (which shall include, but not be limited to, fire, flood, earthquake, water, wind or lightning), accident, transportation difficulties, terrorism or other hostile action, neglect by District, negligence of District, or misuse by District.
    - In the event of a service interruption caused by accident, disaster, or terrorism Nokia will make a commercially reasonable attempt to restore service on the Maintained Products. If, however, service is not restored within 12 hours, Nokia and District will mutually agree on next steps to be taken, which may include the purchase of disaster recovery services to restore service. Additionally, the commercially reasonable efforts contemplated by this provision do not include the provision of new, replacement, or additional hardware or software or performance of on-site services, which if available would require payment of additional charges.

- Modifications, maintenance, or repair performed by other than Nokia designated personnel, including changes, modifications or alterations not authorized by Nokia in the Maintained Products, the hardware, or the software environment in which the Maintained Products operate including, without limitation, the introduction of updates of third-party software or hardware that have not been validated by Nokia.
- Attachment of unspecified or non-approved products to the Maintained Products, or failure of a processor or other equipment or software not maintained by Nokia, or failure of removable or rotating storage media.
- Database problems: If the condition is determined to be the result of corruption of the Maintained Products’ database, and such corruption is not the direct result of the Maintained Products, the condition will be referred back to District. However, if corruption is the result of, or caused by, Nokia’s Maintained Products, Nokia shall manage the resolution of the problem, at no additional charge; provided, however, that Nokia shall only be responsible for restoring data on the media. District shall be responsible for providing Nokia with the data that needs to be restored.
- Hardware/firmware problems: When a condition has been isolated to a hardware or firmware problem on a product that is not covered under this SOW, the condition will be referred back to District for disposition under whatever maintenance arrangements District may have for such hardware or firmware.
- Other/interfacing systems problems: If the condition is determined to be caused by systems other than the Maintained Products including, but not limited to, systems that interface with the Maintained Products, then the condition will be referred to District for corrective action unless the other system(s) has been furnished by Nokia and is covered under an Nokia maintenance contract, in which case Nokia shall manage the resolution of the problem.

- Equipment certification, as required per Nokia’s policy on equipment not installed by an approved Nokia installer, or lapse in CARE coverage, or equipment that has been moved.
- Unless otherwise specified in this SOW, installation of modifications, upgrades, features, enhancements or model conversions, refinishing or refurbishing of products, TSC assistance required in support of non-Nokia manufactured equipment, or direct routine TSC assistance initiated by an individual site if TSC support is provided to a District staffed control center and/or centralized engineering group.
- Maintenance or repairs of accessories, attachments or any other devices not identified in this SOW.
- Furnishing of optional accessories or consumable supplies.
- Recovery of any lost data or expenses for reconstructing data lost during the performance of Technical Support Services provided that Nokia, in advance, supports and endorses the data recovery model design for the system.
- Training of District staff.
- Furthermore, should District desire Services for the Maintained Products which are not under warranty or have not been under a support service agreement with Nokia, in effect immediately prior to the request for Services hereunder, the continuity of the service must be ensured with payment by District of the Services from the date of end of warranty, or the date of end of the previous service agreement, plus, over and above, the payment of a reinstatement fee equal to half of this amount, prior to being eligible for support Services under this SOW.

Technical Support does not include:

- Performing preventive maintenance for the Maintained Products.
- Repair or replacement of product or product components.

- Deployment services, integration services, or custom modifications, or network expansion.

Software Subscription Plan / Software Release Subscription does not include:

- Performing services related to implementing Releases in District's network, including but not limited to:
  - Software Installation or upgrade services (on-site or remotely), network and node staging (on-site or remotely), hardware modification, software configuration or re-configuration, custom tool/script development, technical support prior to or during installation (on-site or remotely), or network integration. Installation services are available for purchase from Nokia.
  - Supplying spare parts, training, network planning, management or related project services.

RES does not include:

- Part modification or upgrade services, unless deemed necessary by Nokia.
- Root cause analysis or failure mode analysis that specifies the actual Part failure cause or any specific remedial action.
- Repair or exchange of Parts with defects or malfunctions caused directly or indirectly by: (1) failure of non-Nokia personnel to follow the manufacturer's installation, operation, or maintenance instructions; (2) Products or their Parts not specifically identified as RES Entitled Products or RES Entitled Parts; (3) abuse, misuse, or negligent acts of non-Nokia personnel; (4) damage from fire, water, wind, exposure to weather, or other forces of nature; (5) acts of terrorism, vandalism or other hostile actions.
- Repair or exchange of Parts that show evidence of: (1) improper packaging; (2) improper handling; (3) modification by non-Nokia approved personnel; (4) the installation or attachment of non-Nokia or non-OEM approved components including hardware or software; (5) any condition that exceeds the tolerances as prescribed by the manufacturer.
- Repair or exchange of passive and mounting hardware including, but not limited to, cabinets, chassis, frames, antennae, connectors, cables, cable assemblies, cords, brackets, bezels, faceplates, adapters, panels or labels.
- Repair or exchange of consumables including, but not limited to, fuses, batteries, air filters, or transformers.
- Repair or exchange of documentation or software in all media forms.

11 Additional Terms

Unless otherwise stated in previous sections of this SOW, the following terms apply to all Services. Additional terms and conditions are per the Agreement.

11.1 Conditions

- Nokia reserves the right to determine which personnel to assign to perform Services. Nokia personnel shall at all times be subject to the employment conditions of Nokia and not those of District. If Nokia personnel are present on District's premises, those Nokia personnel shall respect District's on-site conditions.
- Nokia may use proprietary tools and software for providing this Service. The stated price does not include the sale, licensing or transfer of such tools or software to District.
- All work will be performed during normal business hours – 8 AM to 5 PM, District local time, Monday through Friday (excluding holidays) and as required for after business hour support for maintenance services - unless different working hours/schedule have been specified elsewhere in the SOW.

11.2 Change Management

The pricing in this SOW is based upon performance of the tasks and provision of deliverables specifically defined in this document. Requests for additional work activities that are not described in this document are subject to Section GC-11 of the Agreement.

Additional charges may apply if performance or completion of the Service is delayed for any reason attributable to District. Any delay claims arising under the Agreement by Nokia are subject to the provisions of Sections GC-8 and GC-21 of the Agreement.

11.3 Acceptance

Maintenance, management and other recurring services will be reviewed by the District for acceptance after they are performed. For all other services, Nokia shall notify District upon completion of Services by providing to the District the deliverable(s) specified in this SOW. Thereafter District shall have thirty (30) days from the notice to notify Nokia that the Services do not conform to the requirements described in this SOW. Such Services shall be deemed accepted on the earliest of: (1) the passage of thirty (30) days from date of notice of completion with no notice of non-conformance from District; (2) District's actual acceptance; or (3) District's use of the Services pursuant to acceptance of successful network integration and migration.

12 Pricing Summary

12.1 Pricing Notes

- The quoted prices are valid for Purchase Order (PO) received within 60 days from the date of this SOW.
- All prices are in United States dollars ($US), unless stated otherwise.
- Prices do not include taxes.
- If this SOW is accepted as is, please reference the 20.US.920324.02 quote number on your POs.
- Anything not specifically described above is not included in this SOW.

Maintenance Services:

- Coverage Choice for Maintenance Services is set forth in the section/appendix called “Maintained Products and Scope of the Services.”
- If, through a Change Order executed in accordance with Section GC-11 of the Agreement, District purchases or collocates additional products of the same type for which Maintenance Services are in effect or additional license capacity during the Initial Term or any Renewal Term, District will pay the pro-rated maintenance fees in advance of coverage at the standard rate stated below for the additional products or license capacity based on the number of months remaining in the applicable Term, starting on the dates on which the new products were put into service. District shall provide an update of any change in quantities on Maintained Products on a quarterly basis or otherwise agreed to in writing. Updates must occur annually at a minimum. However, notwithstanding the foregoing, an immediate update is required if the District increases the quantity of the Maintained Products by more than 10% at any time.

- District must purchase Maintenance Service coverage for all products in its network of the types for which Maintenance Services are in effect under this SOW. District shall allow Nokia, if Nokia deems it necessary, to verify the accuracy of the Maintained Products, by reasonable means.
- Prices are based upon purchase of Maintenance Services for the entire agreed Term. Suspension of work or termination other than for default shall be in accordance with Section GC-3 of the Agreement.

12.2 Pricing Table

Please refer to Exhibit “J” of the Agreement for pricing information.

IN WITNESS WHEREOF, the parties have caused this SOW to be executed by their duly authorized representatives on the date(s) indicated.

Nokia of America Corporation	**District Legal Name**
Signature:	Signature:
Name (Print):	Name (Print):
Title:	Title:
Date:	Date:
Nokia of America Corporation	
Signature:	
Name (Print):	
Title:	
Date:	

13 Glossary

13.1 Maintenance Definitions

- **“Agent”** means the entity authorized by Customer to request and consume the Services defined in this SOW.
- “**Agreement**” shall mean the contract governing the Services described in this SOW.
- “**Assistance Request**” or “**AR**” shall mean a District-initiated request for Services to be performed. An AR will be considered valid when Nokia acknowledges the request for assistance and confirms acknowledgement by providing District with an AR tracking number (call number, ticket number). An AR may be initiated by District by telephone through the Nokia Technical Services Center (“TSC”) or via email or through the Alcatel-Lucent.com customer support web site: http://www.Alcatel-Lucent.com/support. Phone has to be used to initiate an AR for Critical and Major AR.
- “**Business Day**” or “**BD**” shall mean normal full working day in the location where District’s equipment is located.
- “**Business Hour**” or “**BH**” shall mean the elapsed 60-minute time period during normal working hours in the location where District’s equipment is operating.
- “**Calendar Day**” shall mean the weekdays Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday and shall be inclusive of national, state or local holidays.
- “**Coverage Period**” shall mean the times of day and the days of the week during which Maintenance Services will be provided.
- “**End Date**” shall mean the date of end of the Term. After that date, District may no longer initiate requests for Services.
- **“OEM-Field Replaceable Unit”** or **“OEM-FRU”** shall mean the OEM Server assembly or subassembly that can reasonably be removed from service and/or installed in the field only by qualified personnel trained by Nokia or its contractors. Nokia shall have sole authority for defining the list of OEM-FRU.
- “**Generally Available**” or “**GA**” means identified hardened software and hardware that are available for general release to customers; software and hardware are being manufactured in volume where standard ordering procedures apply with no further approvals being required.
- “**Hour**” shall mean any consecutive 60-minute time period.
- “**Maintained Products**” means those products for which Maintenance Services are purchased in accordance to this SOW and are specifically identified in the section/appendix “Maintained Products and Scope of Services.” Different products or products additional to the number of Maintained Products stated in this section are not covered in this SOW. Maintenance Services are only available for Maintained Products that are commercially deployed and operational. The RES Entitled Parts are part of the Maintained Products.
- **“OLCS”** or **“Online Customer Support”** means the “Alcatel-Lucent Online Customer Support” web site set up by Nokia for customers.
- **“OEM”** or **“Original Equipment Manufacturer”** means product and/or maintenance provider other than Nokia that provides hardware, software and/or services.
- “**Service**” means the services to be provided by Nokia as described in this SOW.
- “**Service Level Agreement**” or “**SLA**” means the service level that District has subscribed to Nokia concerning the Services.

- "**Site**" shall mean the physical address of where Maintained Products reside and shall be the basis for Service resource planning such that only Sites are eligible for Services.
- "**Start Date**" shall mean the date of beginning of the Term. At that date, District may begin initiating requests for Services.
- "**Statement of Work**" or "**SOW**": means this document, including the herein attached Appendices.
- "**Software**" shall mean intangible Information in object code form constituting one or more computer or apparatus programs and the informational content of such programs, together with any documentation supplied in conjunction with and supplementing such programs, the foregoing being provided to District by way of electronic transmission or by being fixed in media furnished to District.
- "**Support Ended**" means the product has reached its end of life and is no longer sold by Nokia and customer requests for troubleshooting, advice, information or assistance are no longer performed. The Support Ended status is announced to customers publicly and in advance of the date that it is in effect.
- "**Support Window**" shall mean the times of day and the days of the week during which Maintenance Services will be provided.
- "**Technical Expert Center**" or "**TEC**" means the Technical Expert Center of Nokia's organization, which performs Third Level Maintenance.
- "**Technical Support Center**" or "**TSC**" means Nokia's Technical Support Center where from Nokia shall provide Second Level Maintenance to District, through different available media (means of phone communication, Remote Connection and/or by means of on Site interventions).
- "**Welcome Center**" or "**WC**" means the "Nokia Welcome Center" organization set up by Nokia to allow District to contact Nokia services centers by means of a unique entry point.

13.2 Abbreviations

- **AR:** Assistance Request
- **BD:** Business Day
- **BH:** Business Hours
- **CD:** Calendar Day
- **CTA:** Customer Technical Advocate
- **OEM-FRU:** OEM-Field Replaceable Unit
- **FSE:** Field Service Engineer
- **GA:** Generally Available
- **H:** Hour
- **KPI:** Key Performance Indicator
- **SLA:** Service Level Agreement
- **NA:** Not Available
- **NBD:** Next Business Day
- **OEM:** Original Equipment Manufacturer
- **PO:** Purchase Order
- **RES:** Repair & Exchange Service
- **SLA:** Service Level Agreement
- **TS:** Technical Support
- **TSC:** Technical Support Center

- **TEC:** Technical Expert Center
- **WC:** Welcome Center

13.3 Definition of Terms for Technical Support Services

- "**Patch Release**" means a software release that contains minor modifications to address a specific problem and help restore a system. A Patch Release may also be known as a "Craft Release".
- "**Maintenance Release**" means a software release that contains modifications intended to resolve problems that prevent products from performing up to the manufacturer's technical specifications. Typically they are comprised of a collection of Patch Releases. Maintenance Release may also be known as an "Update Release" or a "Point Release".
- "**Feature Release**" means the current and previous GA generic software release. These releases primarily contain new software features and functionality. A Feature Release may also be known as an "Upgrade Release" or "Base Release".
- "**Release**" is a generic term for all software releases, including "Patch Release", "Maintenance Release" and "Feature Release"

13.4 Definition of Terms for Software Subscription Plan / Software Release Subscription

- **"Generally Available"** or **"GA"** means identified hardened product that is available for general release to customers; product is now volume manufactured and standard ordering procedures will apply with no further approvals required.
- **"Feature Release"** means the current and previous GA generic software release. These releases primarily contain new software features and functionality. Also known as an Upgrade release.
- **"Patch Release"** means a software release that contains minor modifications to address a specific problem and help restore a system.
- **"Maintenance Release"** means a software release that contains modifications intended to resolve problems that prevent products from performing up to the manufacturer's technical specifications. Typically, they are comprised of a collection of Patch Releases. Also known as an Update release.
- **"Release"** where the release type is not specified, means all release types supplied under this SOW (where applicability is shown in the appendix hereto), including Feature Releases, Patch Releases, and Maintenance Releases.
- **"Minimum Release Level (MRL)"** means the earliest Product release level of hardware or software currently supported by Nokia, as specified by Nokia, from time to time.
- **"Network Element Products"** (NE Products) includes software and operating systems for network/node elements.
- **"Network Management System Products"** (NMS Products) includes management system software for specific network elements or families of network elements.
- **"Network Related Products"** (NR Products) includes other network-related applications not classified as a NE or NMS Product.

13.5 Definition of Terms for RES

- "**Part**", also referred to as a "Field Replaceable Unit" or "FRU", shall mean the product assembly or subassembly that can reasonably be removed from service and/or installed without the use of

uncommon tools and/or methods. Nokia shall have sole authority for defining the composition of Parts to be exchanged or repaired. Each type of Part will be assigned an identifier to distinguish it for RES purposes. This Part identifier will be used in communication between District and Nokia when discussing Part(s) to be repaired or exchanged. All exchanged Parts will be like-for-like, except where Nokia determines that a replacement Part of a different type is compatible with the form, fit, and function of the defective unit being replaced. Each Part will also have an assigned serial number to uniquely identify and distinguish it from other Parts of similar type.

- "**Repair**" shall mean the diagnosis and replacement or reconfiguration of components necessary to restore Part(s) to their original published operating specifications. Repair may include, at Nokia's sole discretion, the exchange of the entire Part with a Form, Fit and Functionally compatible Part. Replacement components may be new, remanufactured, refurbished, or used and certified as meeting like-new operating standards. Any removed components will become the property of Nokia.
- "**Exchange**" shall mean a like-for-like Part swap between Nokia and District.
- "**Part Request**" or "**PR**" is a transaction process that describes the request and delivery of an RES service. The Part Request process is not completed until both parties have completed their respective responsibilities or until the Part Request is cancelled by mutual agreement.
- "**Part Request Number**" or "**PRN**" is a reference to the Part Request service transaction of numeric or alpha-numeric composition used to track the status and completion of the repair/exchange service request. The issuance of a Part Request number shall mean that Nokia has authorized a Part to be repaired or exchanged according to the terms of this Agreement and therefore shall indicate the commencement of all applicable service delivery commitments.
- "**Form**" means the weight, density, chemical or product composition, size, shape, structure, appearance, protocol, pattern, composition, configuration and marking/identification of product and software.
- "**Fit**" means the suitability or readiness of a product for a particular application, including environmental extremes, marginal parameters, physical and signal compatibility with interfacing systems and surroundings, level of performance, safety margins, reliability, maintainability and installability.
- "**Function**" means the set of features that the product has been designed for use, in accordance with its Specifications.
- "**RES Entitled Site**" shall mean the physical address of where RES Entitled Products and RES Entitled Parts reside and shall be the basis for Nokia's RES service resource planning such that only RES Entitled Sites are eligible for RES services, unless otherwise mutually agreed.
- "**RES Entitled Product**" shall mean the system assembly or subassembly that resides at an RES Entitled Site and is comprised of RES Entitled Parts and will identify both the type of product and the specific instance of product that is eligible for RES services, unless otherwise mutually agreed.
- "**RES Entitled Part**" shall mean aPart from the specific list of Parts that are eligible to receive RES service. Unless the list of RES Entitled Parts are specified, all Parts that comprise the RES Entitled Product shall be considered RES Entitled Parts except those Parts that are excluded by their functional type, nature, purpose, or as otherwise described in RES Exclusions, unless otherwise mutually agreed.
- "**RES Request Deadline**" shall mean the day and time, as determined by the location where the repaired or exchanged Part is to be delivered, by which District must initiate and Nokia must accept a Part Request in order to meet Nokia's RES Delivery Deadline, unless otherwise mutually agreed.
- "**RES Delivery Deadline**" shall mean the day and time, as determined by the location where the repaired or exchanged Part is to be delivered, by which Nokia will fulfill its delivery responsibilities and shall be determined based on District's fulfillment of its responsibilities by the RES Request Deadline, unless otherwise mutually agreed.

- “**RES Entitlement Term**” shall mean the period of time between the RES Entitlement Start Date and the RES Entitlement End Date during which District may initiate a request for RES services.
- “**RES Entitlement Start Date**” shall mean the date at which District may begin initiating service requests for RES services.
- “**RES Entitlement End Date**” shall mean the date after which District may no longer initiate service requests for RES services.
- “**No Fault Found**” or “**NFF**” shall mean that Nokia has determined that a Part which has been reported as defective contains no faulty components and passes diagnostic testing. A Part that has been determined No Fault Found by Nokia will not have any components replaced and will not be physically or materially altered.
- “**Business Day**” refers to a normal full working day and unless otherwise specified shall mean Monday, Tuesday, Wednesday, Thursday and Friday except those days that are designated holidays by a government where services are to be delivered.
- “**Calendar Day**” shall mean the weekdays Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday and shall be inclusive of national, state or local holidays.
- “**Hour**” shall mean any consecutive 60-minute time period.
- “**Business Hour**” shall mean the elapsed 60-minute time period where services are to be delivered during normal working hours and unless otherwise specified shall mean from 8:00 AM – 5:00 PM during the Business Day or from one Business Day to the next.

14 Appendices

14.1 Maintained Products and Scope of the Services

Equipment	Quantity	HW/SW Releases	Location	Services	Support Level
Phase 1					
1830 PSS-32	2	Unknown	Unknown	Technical Support	Gold
1830 PSS-32	2	Unknown	Unknown	Return for Repair	Advance Exchange Next Day
1830 PSS-16II	9	Unknown	Unknown	Technical Support	Gold
1830 PSS-16II	9	Unknown	Unknown	Return for Repair	Advance Exchange Next Day
7750 SR-7	2	R20	Unknown	Technical Support	Gold
7750 SR-7	2	R20	Unknown	Return for Repair	Advance Exchange Next Day
7210 SAS-Sx	2	R21.X	Unknown	Technical Support	Gold
7210 SAS-Sx	2	R21.X	Unknown	Return for Repair	Advance Exchange Next Day
NFM-T High Avail	1	Unknown	Unknown	Technical Support	Gold
NFM-P High Avail	1	NSP 20	Unknown	Technical Support	Gold
Phase 2					
1830 PSS-16II	7	Unknown	Unknown	Technical Support	Gold
1830 PSS-16II	7	Unknown	Unknown	Return for Repair	Advance Exchange Next Day
1830 PSS-16II	7	Unknown	Unknown	Software Subscription	Unlimited

14.2 Software Subscription Plan / Software Release Subscription: Supported Products List

The "Products Covered" and the "Optional Product Features Covered" listed below will be covered by this SSP SOW. Any additional Products or Optional Product Features requested or ordered by District will require a Change Order in accordance with Section GC-11 of the Agreement.

Equipment	Quantity	HW/SW Releases	Location	Services	Support Level
Phase 1					
1830 PSS-32	2	Unknown	Unknown	Software Subscription	Unlimited

1830 PSS-16II	9	Unknown	Unknown	Software Subscription	Unlimited
7750 SR-7	2	R20	Unknown	Software Subscription	Unlimited
7210 SAS-Sx	2	R21.X	Unknown	Software Subscription	Unlimited
NFM-T High Avail	1	Unknown	Unknown	Software Release Subscription	Unlimited
NFM-P High Avail	1	NSP 20	Unknown	Software Release Subscription	Unlimited
Phase 2					
1830 PSS-16II	7	Unknown	Unknown	Software Subscription	Unlimited

Definitions and Notes

NE Products – Network Element Products - includes software and operating systems for network/node elements.

NMS Products - Network Management System Products - includes management system software for specific network elements or families of network elements.

NR Products - Network Related Products – includes other network-related applications not classified as a NE or NMS Product.

GRANT OF LICENSE

1.1. Customer shall use all Licensed Materials in accordance with this Exhibit “A.3”. Upon delivery of any Licensed Material and subject to Customer’s payment of the applicable fees for such Licensed Material and compliance with the other terms and conditions of this Agreement, Nokia grants to Customer, and Customer accepts, a personal, nonexclusive, nontransferable license to use the portions of the Licensed Material for which activation has been authorized by Nokia, solely on or with the single unit or arrangement of Equipment for which the Licensed Material was delivered, for Customer’s internal use in the United States.

1.2. Customer acknowledges and agrees that: (a) Nokia may have encoded within the Software optional functionality, features and/or capacity, which may be accessed only through the purchase of the applicable license extension from Nokia at an additional Price (no licenses are granted to such functionality, features and/or capacity unless Customer purchases the applicable license extension); and (b) Customer may need to obtain a new or additional application key from Nokia to use such Software.

1.3. This Agreement applies to all updates, upgrades, maintenance releases, revisions and enhancements for the Licensed Materials which Nokia may supply to Customer from time to time.

1.4. Customer may copy Licensed Materials as reasonably necessary for backup and archival purposes if the copies contain all of the Nokia proprietary notices contained in the original Licensed Materials. All copies of all Licensed Materials (including partial copies) are Nokia Confidential Information. All rights, title and interest in and to the Licensed Materials, including all intellectual property rights, remain vested in Nokia, its suppliers and licensors, and Customer is granted only a limited license to use the Licensed Materials in conjunction with the Equipment, as set out in this Exhibit “A.3”.

1.5. Customer shall not directly or indirectly: (a) modify, copy, transmit, alter, merge, decompile, disassemble, reverse engineer or adapt any Licensed Material or portion thereof; (b) encumber, time-share, rent or lease the rights granted herein; (c) manufacture, adapt, create derivative works of, localize, port or otherwise modify any Licensed Material or portion thereof; (d) disclose or otherwise make available any Licensed Material or portion thereof to any third party, except as required to perform the internal tasks of the customer with 3rd party support subject to non-disclosure agreement; (e) enable any Software functionality, feature or capacity which Nokia licenses as a separate product, without Nokia’s prior written consent; (f) take any action that may result in the Software becoming subjected to the terms of a license that requires it to be (i) disclosed or distributed in source code form, (ii) licensed for the purpose of making derivative works, or (iii) redistributable at no charge; or (g) use any Licensed Material or portion thereof except in accordance with this Exhibit “A.3”.

1.6. Upon reasonable prior written notice, Nokia may inspect and audit Customer’s compliance with this Exhibit “A.3” during normal business hours. Customer shall cooperate with the audit and shall grant assistance and access to applicable records, materials, personnel, Equipment, and any other information or products which may reasonably enable Nokia to determine whether the use, copying and disclosure of the Licensed Materials comply with this Agreement. In addition, Customer shall provide remote access to its systems, in compliance is all applicable regulation and law to which customer is subject, to enable Nokia to electronically audit Customer’s compliance with this Exhibit “A.3”. If an audit reveals that Customer possesses or at any time possessed unlicensed copies of any Licensed Materials, or used any Licensed Materials beyond the licensed functionality, features or capacity restrictions or beyond the terms stated herein, then Customer shall pay Nokia the applicable license fees (plus interest) and the costs incurred in the audit immediately upon request.

1.7. Certain Software may be delivered with its own specific license (“Additional License”). In such a case, the terms of the Additional License will be delivered to Customer, such as in a separate license.txt file or as part of a tear-open document, and will govern use of the Software by Customer to the extent Nokia does not have a right to supersede them in this Agreement. Nokia’s licensors are third party beneficiaries of this Agreement with respect to their Licensed Materials.

1.8. If Customer’s license or Additional License is cancelled or terminated, or when Customer no longer uses the Licensed Materials, Customer shall return or destroy the Licensed Materials and all copies and certify to Nokia that it has done so.

1830	Apr-2021			Phase 1 HW Payment Milestone 1	Phase 1 Maint Payment Milestone 2	Phase 1 Services Payment Milestone 3	Phase 2 HW Payment Milestone 4	Phase 2 Services Payment Milestone 5	Phase 2 Maint Payment Milestone 6	
System	$ 2,439,736.03	79%	-$ 337,860.89	$ 1,931,089.55			$ 508,646.48			
Services	$ 205,942.50	7%	-$ 28,519.44			$ 150,508.23		$ 55,434.27		
Maintenance	$ 438,414.00	14%	-$ 60,712.69		$ 149,896.00				$ 288,518.00	
Subtotal	**$ 3,084,092.53**			$ 1,931,089.55	$ 149,896.00	$ 150,508.23	$ 508,646.48	$ 55,434.27	$ 288,518.00	$3,084,092.53
Management Adjustment	-$ 427,093.03			-$ 253,395.67	-$ 24,285.08	-$ 19,012.96	-$ 84,465.22	-$ 9,506.48	-$ 36,427.62	-$ 427,093.03
Optics Total	**$ 2,656,999.50**									
Router	**Apr-2021**									
System	$ 2,040,781.00	75%	-$ 1,203,746.86	$ 2,040,781.00						
Services	$ 197,360.00	7%	-$ 116,412.04			$168,274.00		$29,086.00		
Maintenance	$ 479,805.10	18%	-$ 283,011.20		$239,902.55				$239,902.55	
Subtotal	**$ 2,717,946.10**			$ 2,040,781.00	$239,902.55	$168,274.00		$29,086.00	$239,902.55	$ 2,717,946.10
Management Adjustment	-$ 1,603,170.10			-$ 1,203,746.86	-$141,505.60	-$93,129.63		-$23,282.41	-$141,505.60	-$ 1,603,170.10
Router Total	**$ 1,114,776.00**									
Total before Management Adjustments	$ 5,802,038.63			$ 3,971,870.55	$ 389,798.55	$ 318,782.23	$ 508,646.48	$ 84,520.27	$ 528,420.55	
Total after Management Adjustment	$ 3,771,775.50			$ 2,514,728.02	$ 224,007.87	$ 206,639.63	$ 424,181.26	$ 51,731.38	$ 350,487.33	
Shipping				$5,085.15			$2,575.98			
Milestone Totals	$ 3,779,436.62			**$ 2,519,813.17**	**$ 224,007.87**	**$ 206,639.63**	**$ 426,757.24**	**$ 51,731.38**	**$ 350,487.33**	

Ongoing Maintenance

1830 Phase 1		
	$ 70,090.94	TS
	$ 68,737.94	RES
	$ 52,568.20	SSP
1830 Phase 2		
	$ 22,233.95	TS
	$ 16,675.46	SSP
	$ 21,492.95	RES
NFM-T		
	$ 26,322.78	SSP
	$ 6,580.70	TS
7750		
	$ 32,439.99	TS
	$ 32,439.99	SSP
	$ 39,053.32	RES
7210		
	$ 1,317.60	TS
	$ 1,317.60	SSP
	$ 1,660.80	RES
Optics		
	$ 18,336.24	TS
	$ 24,448.32	RES
NFM-P		
	$ 20,864.00	SSP
	$ 5,216.00	TS
Service Portal Express		
	$ 25,000.00	TS/SSP

$ 486,796.77 **Total Annual Support Costs for year 3 and beyond**

NOKIA

Pricing Summary

Grant County PUD
17-Node 1830
1830 PSS Equipment

July 1, 2021
Offer # 20.US.920324.02

17-Node 1830 IROADMV Network

Phase 1: System Hardware

Item	Site	Description	Qty.	Unit Price	Net Price
1	EPH	4-Degree IROADMV node	1	$450,146.00	$450,146.00
2	TTN	3-Degree IROADMV node	1	$108,395.01	$108,395.01
3	MLD	2-Degree IROADMV node	1	$83,075.87	$83,075.87
4	MLK	2-Degree IROADMV node	1	$396,155.64	$396,155.64
5	SND	2-Degree IROADMV node	1	$86,880.67	$86,880.67
6	RCS	3-Degree IROADMV node	1	$102,635.01	$102,635.01
7	BUK	3-Degree IROADM9R node	1	$138,552.95	$138,552.95
8	QUS	3-Degree IROADMV node	1	$106,400.01	$106,400.01
9	COL	2-Degree IROADMV node	1	$93,422.01	$93,422.01
10	NQS	2-Degree IROADMV node	1	$82,105.47	$82,105.47
11	EST	3-Degree IROADMV node	1	$104,504.81	$104,504.81
					$1,752,273.45

Phase 1: NSP NFM-T R20.x High Availability

Item	Site	Description	Net Price
12	3KC73716AAAA	ESWL NFM-T 20 APPLICATION ONLY BASE LICENSE	$37,500.00
13	3KC73640AAAA	NFM-T STANDARD LP (13,485 LP)	$61,356.75
14	3KC73641AAAA	NFM-T HIGH AVAILABILITY LP (13,485 LP)	$12,271.35
			$111,128.10

Phase 2: System Hardware

Item	Site	Description	Qty.	Unit Price	Net Price
15	WAS	2-Degree IROADMV node	1	$85,575.67	$85,575.67
16	PRD	2-Degree IROADM9 node	1	$109,339.81	$109,339.81
17	ILA	PSS16II ILA	1	$19,159.45	$19,159.45
18	GRC	2-Degree IROADMV node	1	$84,385.47	$84,385.47
19	COU	2-Degree IROADMV node	1	$85,060.47	$85,060.47
20	SOA	3-Degree IROADMV node	1	$104,639.81	$104,639.81
					$488,160.68

Phase 2: NSP NFM-T R20.x High Availability

Item	Site	Description	Net Price
21	3KC73640AAAA	NFM-T STANDARD LP (2,995 LP)	$17,071.50
22	3KC73641AAAA	NFM-T HIGH AVAILABILITY LP (2,995 LP)	$3,414.30
			$20,485.80

Spares

Item	Site	Description	Qty.	Unit Price	Net Price
28	Spares	1-Set of Recommended Spares	1	$67,688.00	$67,688.00
					$67,688.00

TOTAL **$2,439,736.03**

Services **$205,942.50**

Maintenance **$438,414.00**

PROJECT TOTAL **$3,084,092.53**

Prices are in US Dollars. All sites are located in USA.

Pricing is valid for 60 days.

Pricing is based on attached Scope Of Work, Assumptions, Detailed Equipment List and Design Configurations. Equipment and Installation pricing is budgetary, subject to change based on final engineering and/or site survey results.

Shipping charges are not included in this proposal. Shipping will be prepaid by Nokia and added to the customer invoice.

This pricing is valid only for the equipment, equipment features, installation, and services explicitly described within this proposal. Any equipment item, equipment feature, installation item, or service not explicitly described in this bid is not included in this pricing, and any addition of such will require a revised proposal with modified pricing. Please review all sections of this bid carefully for details as to what this proposal includes, and what assumptions have been made.

This 1830 PSS network design and quote are based on limited fiber characteristic data and span assumptions only and are subject to change until detailed Fiber Optic Characterization (FOC) information is provided. If Raman amplification is used in the quote, the fiber plant site planning criteria in the 1830 PSS Planning Guide must be established and maintained by the customer.

FOC data provides the following:
- Span distance and loss measurements
- Dispersion measurements (CMD, PMD)
- Inter-office loss measurements
- Optical return loss measurements
- Splice locations and splice quality
- The ability to confirm fiber type based on the above measured values

Nokia can provide a quote for FOC testing if FOC testing resources are not available to the customer.

NOKIA

1830 Detail Pricing

Offer # 20.US.920324.02

Part Number	Description	Unit Price	EPH 4-Degree IROADMV node		TTN 3-Degree IROADMV node		MLD 2-Degree IROADMV node		MLK 2-Degree IROADMV node		SND 2-Degree IROADMV node		RCS 3-Degree IROADMV node		BUK 3-Degree IROADM9R node		QUS 3-Degree IROADMV node		COL 2-Degree IROADMV node		NQS 2-Degree IROADMV node		EST 3-Degree IROADMV node		TOTALS	
			Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price	Qty	Ext Price
COMMONS																										
3KC49050AB	16IIKIT-PSS16II ShelfKit (1xShelf 1XFAN 1X16UP2 1xAirFLTR)	$2,665.60	4	$10,662.40	1	$2,665.60	1	$2,665.60	4	$10,662.40	1	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	17	$45,315.20
3KC48980AA	16UP2 - User Panel - PSS16II	$265.47	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
3KC48990AB	16FAN2 - FAN Unit - PSS16II	$650.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
8DG59417AB	DCM Shelf (ETSI/ANSI)	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	1	$103.00	11	$1,133.00
1AD151930001	Fiber Storage Tray Kit	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	11	$3,575.00
8DG60130AB	OMD COVER KIT (ANSI)	$74.00	8	$592.00	6	$444.00	4	$296.00	4	$296.00	4	$296.00	6	$444.00	6	$444.00	6	$444.00	4	$296.00	4	$296.00	6	$444.00	58	$4,292.00
8DG60131AB	DCM COVER KIT (ANSI)	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	1	$74.00	11	$814.00
8DG62635AA	32EC2 - HP Equipment Controller	$826.88	8	$6,615.04	2	$1,653.76	2	$1,653.76	8	$6,615.04	2	$1,653.76	2	$1,653.76	2	$1,653.76	2	$1,653.76	2	$1,653.76	2	$1,653.76	2	$1,653.76	34	$28,113.92
3KC49010AA	16DC65-DC PwrFltr (65A) PSS16II w simplified timing	$397.12	8	$3,176.96	2	$794.24	2	$794.24	8	$3,176.96	2	$794.24	2	$794.24	2	$794.24	2	$794.24	2	$794.24	2	$794.24	2	$794.24	34	$13,502.08
3KC50014AB	16INST23 - PSS16II INST KIT-23IN ANSI	$381.89	4	$1,527.56	1	$381.89	1	$381.89	4	$1,527.56	1	$381.89	1	$381.89	1	$381.89	1	$381.89	1	$381.89	1	$381.89	1	$381.89	17	$6,492.13
8DG59603AA	OMD Installation Kit (EIA, ANSI, or ETSI)	$24.40	8	$195.20	6	$146.40	4	$97.60	4	$97.60	4	$97.60	6	$146.40	6	$146.40	6	$146.40	4	$97.60	4	$97.60	6	$146.40	58	$1,415.20
3KC50021AA	PSS16II CA-DC POWER CABLE_LEFT 3.6M	$107.00	4	$428.00	1	$107.00	1	$107.00	4	$428.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	17	$1,819.00
3KC50022AA	PSS16II CA-DC POWER CABLE_RIGHT 3.6M	$107.00	4	$428.00	1	$107.00	1	$107.00	4	$428.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	17	$1,819.00
BLANKS & MISCELLANEOUS																										
8DG59418AA	Full Slot Blank - PSS32, PSS-16, PSS-4	$23.46	4	$93.84	2	$46.92	3	$70.38	8	$187.68	3	$70.38	2	$46.92	1	$23.46	2	$46.92	2	$46.92	3	$70.38	2	$46.92	32	$750.72
8DG59613AA	1830 Tool Kit (incl SFPTL, LCTL, HSLADTL, HSLADDRV)	$90.00	1	$90.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$90.00
FILTERS																										
8DG62445AB	IROADMV-Integrated ROADM blade wVG amp	$9,500.00	4	$38,000.00	3	$28,500.00	2	$19,000.00	2	$19,000.00	2	$19,000.00	3	$28,500.00	0	$0.00	3	$28,500.00	2	$19,000.00	2	$19,000.00	3	$28,500.00	26	$247,000.00
8DG63973AA	IROADM9R - Regional 9D ROADM SWG AMP	$16,000.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	3	$48,000.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	3	$48,000.00
8DG59248AA	44 Channel Optical Mux/Demux	$2,500.00	4	$10,000.00	3	$7,500.00	2	$5,000.00	2	$5,000.00	2	$5,000.00	3	$7,500.00	3	$7,500.00	3	$7,500.00	2	$5,000.00	2	$5,000.00	3	$7,500.00	29	$72,500.00
8DG59857AA	44 Channel Optical Mux/Demux - 50GHz offset	$2,500.00	4	$10,000.00	3	$7,500.00	2	$5,000.00	2	$5,000.00	2	$5,000.00	3	$7,500.00	3	$7,500.00	3	$7,500.00	2	$5,000.00	2	$5,000.00	3	$7,500.00	29	$72,500.00
INTERLEAVER MODULES																										
8DG59841AA	88 Channel Interleaver	$3,000.00	4	$12,000.00	3	$9,000.00	2	$6,000.00	2	$6,000.00	2	$6,000.00	3	$9,000.00	3	$9,000.00	3	$9,000.00	2	$6,000.00	2	$6,000.00	3	$9,000.00	29	$87,000.00
AMPLIFIERS																										
3KC70693AA	ASG - Amplifier Switched Gain EDFA	$4,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
8DG64137AA	RAZP-96 - 2 PUMP RMN 96CH, No MID-STG ACCESS	$13,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$13,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$13,500.00
CABLES																										
8DG08359AA	CA-INVENTORY CABLE (NAR) (2.3M), SHIELDED CAT5E	$45.00	8	$360.00	9	$405.00	6	$270.00	6	$270.00	6	$270.00	9	$405.00	9	$405.00	6	$270.00	6	$270.00	6	$270.00	9	$405.00	80	$3,600.00
8DG08360AA	CA-INVENTORY CABLE (NAR) (5.5M), SHIELDED CAT5E	$55.00	2	$110.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	3	$165.00	0	$0.00	0	$0.00	0	$0.00	5	$275.00
8DG08361AA	CA-INVENTORY CABLE (NAR) (7M), SHIELDED CAT5E	$65.00	2	$130.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	2	$130.00
8DG08368AA	CA-LAN CABLE (NAR), 2M, SHIELDED CAT5, PVC	$30.00	4	$120.00	0	$0.00	0	$0.00	4	$120.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	8	$240.00
8DG08351AA	CA-LAN CABLE (NAR), 5M, SHIELDED CAT5, PVC	$39.00	4	$156.00	0	$0.00	0	$0.00	2	$78.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	6	$234.00
8DG08352AA	CA-LAN CABLE (NAR), 10M, SHIELDED CAT5, PVC	$54.00	0	$0.00	0	$0.00	0	$0.00	2	$108.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	2	$108.00
1AB215120038	Duplex Jumper (3.5m) - NAR (SM for internal connections)	$42.00	39	$1,638.00	14	$588.00	9	$378.00	28	$1,176.00	9	$378.00	14	$588.00	14	$588.00	14	$588.00	9	$378.00	9	$378.00	14	$588.00	173	$7,266.00
1AB215120077	Simplex Jumper (3.5m) - NAR	$25.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	3	$75.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	3	$75.00
1AB215120085	Short Jumper (120mm) - VOA application	$24.60	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1AB215120076	JUMPER (155MM)	$46.40	4	$185.60	3	$139.20	2	$92.80	2	$92.80	2	$92.80	3	$139.20	0	$0.00	3	$139.20	2	$92.80	2	$92.80	3	$139.20	26	$1,206.40
1AB155630001	Jumper, LC Duplex, 140mm, for External OSC (HH LD)	$59.60	4	$238.40	3	$178.80	2	$119.20	2	$119.20	2	$119.20	3	$178.80	2	$119.20	3	$178.80	2	$119.20	2	$119.20	3	$178.80	28	$1,668.80
OPTICAL TRANSPONDERS AND UPLINK																										
8DG63988AA	S13X100E 100G MUX/ XPDR/ UPLINK (Encryption)	$13,500.00	21	$283,500.00	2	$27,000.00	2	$27,000.00	21	$283,500.00	2	$27,000.00	2	$27,000.00	2	$27,000.00	2	$27,000.00	2	$27,000.00	2	$27,000.00	2	$27,000.00	60	$810,000.00
8DG64098AA	12CE121- 12x10GbE/1GbE L2 Card	$6,000.00	3	$18,000.00	1	$6,000.00	1	$6,000.00	1	$6,000.00	1	$6,000.00	1	$6,000.00	1	$6,000.00	1	$6,000.00	2	$12,000.00	1	$6,000.00	1	$6,000.00	14	$84,000.00
PLUGGABLES																										
3AL82099AA	QSFP28 100G BASE-SR4 SINGLE RATE 100GE	$650.00	2	$1,300.00	0	$0.00	0	$0.00	2	$1,300.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	4	$2,600.00
1AB390930004	SFP+ 10GBASE-SR-SW_1200-MX-SN-I (<500m, Multi-mode, 850nm)	$294.00	113	$33,222.00	0	$0.00	0	$0.00	110	$32,340.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	223	$65,562.00
1AB376720002	SFP GBE LX -40/+85 (B&W 1GbE DDM 1310nm (1000BASE-LX))	$75.00	28	$2,100.00	4	$300.00	5	$375.00	9	$675.00	4	$300.00	4	$300.00	5	$375.00	7	$525.00	17	$1,275.00	3	$225.00	6	$450.00	92	$6,900.00
1AB373120001	OC3/STM1 APD SFP (1510nm) with DDM	$360.00	1	$360.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$360.00	0	$0.00	1	$360.00	0	$0.00	0	$0.00	1	$360.00	4	$1,440.00
1AB373110001	OC3/STM1 PIN SFP (1510nm) with DDM	$270.00	3	$810.00	3	$810.00	2	$540.00	2	$540.00	2	$540.00	2	$540.00	0	$0.00	2	$540.00	2	$540.00	2	$540.00	1	$270.00	21	$5,670.00
1AB390930002	SFP+ 10GBASE-LR -LW_1200-SM-LL-L (10km, Single-Mode, 1310nn	$390.00	27	$10,530.00	27	$10,530.00	9	$3,510.00	20	$7,800.00	19	$7,410.00	12	$4,680.00	20	$7,800.00	21	$8,190.00	18	$7,020.00	7	$2,730.00	16	$6,240.00	196	$76,440.00
3AL82081AA	EULH II OSC SFP	$250.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	3	$750.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	3	$750.00
1AB373120002	OC3/STM1 APD ULHSFP (1510nm)	$450.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$450.00	1	$450.00
ATTENUATORS																										
1AB371250002	2dB Attenuator	$20.20	0	$0.00	1	$20.20	2	$40.40	1	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	4	$80.80
1AB371250006	1dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	1	$20.20	1	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	2	$40.40
1AB371250008	5dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$20.20
1AB371240001	8dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1AB371250003	6dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$20.20	1	$20.20	0	$0.00	0	$0.00	0	$0.00	2	$40.40
1AB371250001	4dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$20.20
SOFTWARE																										
3KC71145AAAA	KIT SWP 1830PSS SWDM R13.0.0	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	11	$825.00
8DG60207AAAA	1830 PSS Wavelength Tracker Software License Fee	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	11	$33,000.00
	Totals:			$450,146.00		$108,395.01		$83,075.87		$396,155.64		$86,880.67		$102,635.01		$138,552.95		$106,400.01		$93,422.01		$82,105.47		$104,504.81		$1,752,273.45
	Typical Power (Watts):			6177.6		1150.7		1061.3		5767.9		1070.4		1135.7		973.6		1147.4		1200.1		1057.5		1141.5		21883.7
	Max Power (Watts):			6999		1330.1		1239.7		6565.1		1248.6		1315.1		1156.2		1327.4		1389.9		1235.5		1321.3		25127.9
	[Power is as-configured]																									
	NFM-T Licenses:			4086		632		545		3870		545		632		800		632		566		545		632		13485
	TSSP:			4602		719		636		4376		636		719		893		719		666		636		719		15321

NOKIA

1830 Detail Pricing

Offer # 20.US.920324.02

Part Number	Description	Unit Price	WAS 2-Degree IROADMV node Qty	WAS Ext Price	PRD 2-Degree IROADM9 node Qty	PRD Ext Price	ILA PSS16II ILA Qty	ILA Ext Price	GRC 2-Degree IROADMV node Qty	GRC Ext Price	COU 2-Degree IROADMV node Qty	COU Ext Price	SOA 3-Degree IROADMV node Qty	SOA Ext Price	Spares 1-Set of Recommended Spares Qty	Spares Ext Price	TOTALS Qty	TOTALS Ext Price
COMMONS																		
3KC49050AB	16IIKIT-PSS16II ShelfKit (1xShelf 1XFAN 1X16UP2 1xAirFLTR)	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	1	$2,665.60	0	$0.00	6	$15,993.60
3KC48980AA	16UP2 - User Panel - PSS16II	$265.47	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
3KC48990AB	16FAN2 - FAN Unit - PSS16II	$650.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$650.00	1	$650.00
8DG59417AB	DCM Shelf (ETSI/ANSI)	$103.00	1	$103.00	1	$103.00	0	$0.00	1	$103.00	1	$103.00	1	$103.00	0	$0.00	5	$515.00
1AD151930001	Fiber Storage Tray Kit	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	1	$325.00	0	$0.00	6	$1,950.00
8DG60130AB	OMD COVER KIT (ANSI)	$74.00	4	$296.00	4	$296.00	0	$0.00	4	$296.00	4	$296.00	6	$444.00	0	$0.00	22	$1,628.00
8DG60131AB	DCM COVER KIT (ANSI)	$74.00	1	$74.00	1	$74.00	0	$0.00	1	$74.00	1	$74.00	1	$74.00	0	$0.00	5	$370.00
8DG62635AA	32EC2 - HP Equipment Controller	$826.88	2	$1,653.76	2	$1,653.76	2	$1,653.76	2	$1,653.76	2	$1,653.76	2	$1,653.76	1	$826.88	13	$10,749.44
3KC49010AA	16DC65-DC PwrFltr (65A) PSS16II w simplified timing	$397.12	2	$794.24	2	$794.24	2	$794.24	2	$794.24	2	$794.24	2	$794.24	1	$397.12	13	$5,162.56
3KC50014AB	16INST23 - PSS16II INST KIT-23IN ANSI	$381.89	1	$381.89	1	$381.89	1	$381.89	1	$381.89	1	$381.89	1	$381.89	0	$0.00	6	$2,291.34
8DG59603AA	OMD Installation Kit (EIA, ANSI, or ETSI)	$24.40	4	$97.60	4	$97.60	0	$0.00	4	$97.60	4	$97.60	6	$146.40	0	$0.00	22	$536.80
3KC50021AA	PSS16II CA-DC POWER CABLE_LEFT 3.6M	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	0	$0.00	6	$642.00
3KC50022AA	PSS16II CA-DC POWER CABLE_RIGHT 3.6M	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	1	$107.00	0	$0.00	6	$642.00
BLANKS & MISCELLANEOUS																		
8DG59418AA	Full Slot Blank - PSS32, PSS-16, PSS-4	$23.46	3	$70.38	2	$46.92	6	$140.76	3	$70.38	3	$70.38	2	$46.92	0	$0.00	19	$445.74
FILTERS																		
8DG62445AB	IROADMV-Integrated ROADM blade wVG amp	$9,500.00	2	$19,000.00	0	$0.00	0	$0.00	2	$19,000.00	2	$19,000.00	3	$28,500.00	1	$9,500.00	10	$95,000.00
8DG63973AA	IROADM9R - Regional 9D ROADM SWG AMP	$16,000.00	0	$0.00	2	$32,000.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$16,000.00	3	$48,000.00
8DG59248AA	44 Channel Optical Mux/Demux	$2,500.00	2	$5,000.00	2	$5,000.00	0	$0.00	2	$5,000.00	2	$5,000.00	3	$7,500.00	0	$0.00	11	$27,500.00
8DG59857AA	44 Channel Optical Mux/Demux - 50GHz offset	$2,500.00	2	$5,000.00	2	$5,000.00	0	$0.00	2	$5,000.00	2	$5,000.00	3	$7,500.00	0	$0.00	11	$27,500.00
INTERLEAVER MODULES																		
8DG59841AA	88 Channel Interleaver	$3,000.00	2	$6,000.00	2	$6,000.00	0	$0.00	2	$6,000.00	2	$6,000.00	3	$9,000.00	0	$0.00	11	$33,000.00
AMPLIFIERS																		
3KC70693AA	ASG - Amplifier Switched Gain EDFA	$4,500.00	0	$0.00	0	$0.00	2	$9,000.00	0	$0.00	0	$0.00	0	$0.00	1	$4,500.00	3	$13,500.00
8DG64137AA	RA2P-96 - 2 PUMP RMN 96CH, No MID-STG ACCESS	$13,500.00	0	$0.00	1	$13,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$13,500.00	2	$27,000.00
CABLES																		
8DG08359AA	CA-INVENTORY CABLE (NAR) (2.3M), SHIELDED CAT5E	$45.00	6	$270.00	6	$270.00	0	$0.00	6	$270.00	6	$270.00	9	$405.00	0	$0.00	33	$1,485.00
8DG08360AA	CA-INVENTORY CABLE (NAR) (5.5M), SHIELDED CAT5E	$55.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
8DG08361AA	CA-INVENTORY CABLE (NAR) (7M), SHIELDED CAT5E	$65.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
8DG08368AA	CA-LAN CABLE (NAR), 2M, SHIELDED CAT5, PVC	$30.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
8DG08351AA	CA-LAN CABLE (NAR), 5M, SHIELDED CAT5, PVC	$39.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
8DG08352AA	CA-LAN CABLE (NAR), 10M, SHIELDED CAT5, PVC	$54.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1AB215120038	Duplex Jumper (3.5m) - NAR (SM for internal connections)	$42.00	9	$378.00	9	$378.00	0	$0.00	9	$378.00	9	$378.00	14	$588.00	0	$0.00	50	$2,100.00
1AB215120077	Simplex Jumper (3.5m) - NAR	$25.00	0	$0.00	3	$75.00	2	$50.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	5	$125.00
1AB215120085	Short Jumper (120mm) - VOA application	$24.60	0	$0.00	0	$0.00	2	$49.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	2	$49.20
1AB215120076	JUMPER (155MM)	$46.40	2	$92.80	0	$0.00	0	$0.00	2	$92.80	2	$92.80	3	$139.20	0	$0.00	9	$417.60
1AB155630001	Jumper, LC Duplex, 140mm, for External OSC (HH LD)	$59.60	2	$119.20	1	$59.60	0	$0.00	2	$119.20	2	$119.20	3	$178.80	0	$0.00	10	$596.00
OPTICAL TRANSPONDERS AND UPLINK																		
8DG63988AA	S13X100E 100G MUX/ XPDR/ UPLINK (Encryption)	$13,500.00	2	$27,000.00	2	$27,000.00	0	$0.00	2	$27,000.00	2	$27,000.00	2	$27,000.00	1	$13,500.00	11	$148,500.00
8DG64098AA	12CE121- 12x10GbE/1GbE L2 Card	$6,000.00	1	$6,000.00	1	$6,000.00	0	$0.00	1	$6,000.00	1	$6,000.00	1	$6,000.00	1	$6,000.00	6	$36,000.00
PLUGGABLES																		
3AL82099AA	QSFP28 100G BASE-SR4 SINGLE RATE 100GE	$650.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$650.00	1	$650.00
1AB390930004	SFP+ 10GBASE-SR-SW_1200-MX-SN-I (<500m, Multi-mode, 850nm	$294.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$294.00	1	$294.00
1AB376720002	SFP GBE LX -40/+85 (B&W 1GbE DDM 1310nm (1000BASE-LX))	$75.00	1	$75.00	4	$300.00	0	$0.00	1	$75.00	6	$450.00	1	$75.00	1	$75.00	14	$1,050.00
1AB373120001	OC3/STM1 APD SFP (1510nm) with DDM	$360.00	1	$360.00	0	$0.00	1	$360.00	1	$360.00	0	$0.00	0	$0.00	1	$360.00	4	$1,440.00
1AB373110001	OC3/STM1 PIN SFP (1510nm) with DDM	$270.00	1	$270.00	0	$0.00	0	$0.00	1	$270.00	2	$540.00	3	$810.00	1	$270.00	8	$2,160.00
1AB390930002	SFP+ 10GBASE-LR -LW_1200-SM-LL-L (10km, Single-Mode, 1310nr	$390.00	16	$6,240.00	9	$3,510.00	0	$0.00	13	$5,070.00	14	$5,460.00	18	$7,020.00	1	$390.00	71	$27,690.00
3AL82081AA	EULH II OSC SFP	$250.00	0	$0.00	2	$500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$250.00	3	$750.00
1AB373120002	OC3/STM1 APD ULHSFP (1510nm)	$450.00	0	$0.00	0	$0.00	1	$450.00	0	$0.00	0	$0.00	0	$0.00	1	$450.00	2	$900.00
ATTENUATORS																		
1AB371250002	2dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1AB371250006	1dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1AB371250008	5dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1AB371240001	8dB Attenuator	$20.20	1	$20.20	1	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	2	$40.40
1AB371250003	6dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1AB371250001	4dB Attenuator	$20.20	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
SOFTWARE																		
3KC71145AAAA	KIT SWP 1830PSS SWDM R13.0.0	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	1	$75.00	7	$525.00
8DG60207AAAA	1830 PSS Wavelength Tracker Software License Fee	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	1	$3,000.00	0	$0.00	6	$18,000.00
	Totals:			$85,575.67		$109,339.81		$19,159.45		$84,385.47		$85,060.47		$104,639.81		$67,688.00		$555,848.68
	Typical Power (Watts):			1064.7		960.4		523.8		1061.7		1067.2		1139				6315.8
	Max Power (Watts):			1242.3		1142.6		722.2		1239.3		1245.8		1317.8				7480.5
	[Power is as-configured]																	
	NFM-T Licenses:			545		666		62		545		545		632				2995
	TSSP:			636		762		120		636		636		719				3509

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Phase 1, NSP NFM-T R20.x High Availability to manage 1830 PSS (13,135 LPs)

Part Number	Description	Unit Price	NFM-T Qty	NFM-T Ext Price
3KC73716AAAA	ESWL NFM-T 20 APPLICATION ONLY BASE LICENSE	$37,500.00	1	$37,500.00
3KC73640AAAA	NFM-T STANDARD LP (13,485 LP)		13,485	$61,356.75
3KC73641AAAA	NFM-T HIGH AVAILABILITY LP (13,485 LP)		13,485	$12,271.35
		Totals:	$111,128.10	

Phase 2, NSP NFM-T R20.x High Availability to manage 1830 PSS (2,995 LPs)

Part Number	Description	Unit Price	NFM-T Qty	NFM-T Ext Price
3KC73640AAAA	NFM-T STANDARD LP (2,995 LP)		2,995	$17,071.50
3KC73641AAAA	NFM-T HIGH AVAILABILITY LP (2,995 LP)		2,995	$3,414.30
		Totals:	$20,485.80	

Phase 1, NSP NFM-T R20.x Software Release Subscription

Part Number User LIC.	Description	Unit Price	NFM-T Software Release Subscription, 1-Year Term: Phase 1 Qty	NFM-T Software Release Subscription, 1-Year Term: Phase 1 Ext Price
8DG43280AAAA	1350OMS -NFM-TRANSPORT - SRS NAR	$22,027.00	1	$22,027.00
		Totals:	$22,027.00	

Phase 2, NSP NFM-T R20.x Software Release Subscription

Part Number User LIC.	Description	Unit Price	NFM-T Software Release Subscription, 1-Year Term: Phase 2 Qty	NFM-T Software Release Subscription, 1-Year Term: Phase 2 Ext Price
8DG43280AAAA	1350OMS -NFM-TRANSPORT - SRS NAR	$4,097.00	1	$4,097.00
		Totals:	$4,097.00	

Lab, NSP NFM-T R20.x Software Release Subscription

Part Number User LIC.	Description	Unit Price	NFM-T Software Release Subscription, 1-Year Term: LAB Qty	NFM-T Software Release Subscription, 1-Year Term: LAB Ext Price
8DG43280AAAA	1350OMS -NFM-TRANSPORT - SRS NAR	$2,976.00	1	$2,976.00
		Totals:	$2,976.00	

NOKIA

Pricing Summary
Maint & Deployment Svcs

Grant County PUD
17-Node 1830
1830 PSS Equipment

July 1, 2021
Offer # 20.US.920324.02

Deployment Services, 1830 PSS & NSP NFM-T

Line	OI	Service	Phase 1	Phase 2
1	300519295	Engineering, Optics Site Survey (Remote)	$6,348.00	$3,174.00
2	300519295	Engineering, Installation Engineering (Remote)	$30,274.00	$13,404.00
3	3EF18786BGAA	Site Materials	$12,709.00	$2,242.00
4	300466612	Installation Services	N/A	N/A
5	301091633	Project Management Services (Remote)	$13,827.25	$5,017.17
6	300472503	Optical Network Integration (Remote)	$61,485.63	$30,066.67
7	301088191	ION Optics Network Management Pro Services (NFM-T, Remote)	$25,864.35	$1,530.43
		TOTALS:	**$150,508.23**	**$55,434.27**

Maint Services (TS Gold, RES-AE-1D, SSP/SRS), 1830 PSS & NSP NFM-T

Line	OI	Service	Year-1	Year-2
1	301048005	TS GOLD, Phase 1 1830 (11-PSS16II Nodes)	$77,257.00	$77,257.00
2	301048005	TS GOLD, Phase 2 1830 (1-ILA Node & 5-PSS16II Nodes)	N/A	$20,650.00
3	301013256	TS GOLD, NFM-T	$21,231.00	$21,231.00
4	301013256	TS GOLD, NFM-T Phase 2	N/A	$7,456.00
5	301048484	R4R-AE-1D, Phase 1 1830 (11-PSS16II Nodes)	$9,884.00	$109,963.00
6	301048484	R4R-AE-1D, Phase 2 1830 (1-ILA Node & 5-PSS16II Nodes)	N/A	$2,787.00
7	3KC69728AAAA	1830 SSP, Phase 1, Qty (11) 1830 PSS16IIs	$15,400.00	$15,400.00
8	3KC69728AAAA	1830 SSP, Phase 2 (5) 1830 PSS16II	N/A	$7,000.00
9	3KC69726AAAA	1830 SSP, Phase 2, Qty (1) 1830 ILA	N/A	$650.00
10	8DG43280AAAA	NFM-T SRS Phase 1, High Availability	$22,027.00	$22,027.00
11	8DG43280AAAA	NFM-T SRS Phase 2, High Availability	$4,097.00	$4,097.00
		TOTALS:	**$149,896.00**	**$288,518.00**

Offer # 20.US.920324.02

1) The scope of this proposal includes only the equipment specifically listed within the detailed equipment lists, and assumes that the customer will provide all other necessary supporting equipment or that such equipment is not needed. This supporting equipment includes, but is not limited to, “other telecom equipment, racks or rack space, cable rack, auxiliary framing, fuse panels, DSX panels, fiber panels, and cabling”.

Nokia will upon request work with the customer and quote additional items as needed to support this proposal.

*Please review this proposal completely and carefully. If it is noticed that something is not on this quote that should be, or that something is on this quote that should not be, please contact either the engineer listed on the cover page or your sales representative.

2) Please note that all equipment, installation, engineering, and services prices are subject to change based on actual site survey results, actual fiber characteristics or measurements, and/or unforeseen site conditions. Nokia may need to provide the customer with an updated quote based on any scope or design changes that result based on these site surveys.
3) The customer will need to provide -48V DC power at all locations. If -48V DC power is not available, Nokia can provide quote for rectifiers that will work with existing AC power sources.
4) No Custom Requirements for this project are required, unless otherwise indicated.
5) Environment is standard 7 foot
6) All cabling is overhead in existing cable racking or ducts, unless otherwise indicated.
7) Site survey may be required to create firm quote
8) Quote Valid for 60 days, unless otherwise noted.
9) No DSX/LGX/Patch Panels Provided by Nokia unless specifically listed.
10) No Cable Rack or Auxiliary Framing, provided or installed by Nokia
11) No AC Work provided by Nokia
12) Equipment warranty’s 1 year, unless special provisions have been made by contract.
13) Customer Technical Assistance Center (CTAC): Customers without an active contract or signed CTAC Service Level Agreement (SLA) will be required to provide a Purchase Order (PO) prior to receiving Technical support. Nokia can provide pricing for these services upon request.
14) Nokia standard terms and conditions apply to all remaining sections of this proposal unless otherwise stated or governed by an existing contact between Nokia and customer.
15) Shipping terms are FOB origin unless otherwise stated or governed by an existing contract between Nokia and customer.
16) Software Licensing Agreement - Upon payment of this license fee, purchaser will have a nonexclusive, nontransferable license to use the authorized portions of Nokia software solely on a single unit of equipment for which the software was delivered. Purchaser may make one copy of the software for backup and archival purposes if the copy contains all of Nokia original proprietary notices. Purchaser agrees not to disclose, modify, copy, transmit, alter, merge, decompile, disassemble, reverse engineer or adapt any portion of the software. Except for the limited, foregoing license, all rights, title and interest (including all intellectual property rights) in and to the software and documentation shall remain with Nokia or its suppliers.
17) Power draw estimates apply only to the 1830 PSS shelf, cards, and SFPs. PDU, rack, and cabling are not included in those estimates.
18) Unless otherwise noted, all prices are in United States Dollars (USD).
19) Unless otherwise noted, this 1830 PSS network design and quote are based on limited fiber characteristic data and span assumptions only and are subject to change until detailed Fiber Optic Characterization (FOC) information is provided.
20) The 1830 PSS offering may be based on future I/O feature set. This configuration will not be deliverable until this I/O feature set is available.

Offer # 20.US.920324.02

Nokia is providing the following equipment on this proposal:

1) 1830 PSS racks/shelf and cards, as shown in the Detail Equipment Lists

2) Other telecom equipment (engineer needs to provide details)

3) Equipment cabling and other installation materials as described in the Installation Services section.

Grant County PUD will need to provide the following equipment, or have this equipment available on site.

Please note that Nokia upon request can quote any or all of this equipment as needed to support this proposal:

1) Racks and/or rack space at all locations. The 1830 PSS-32 measures 621.8mm x 438.9mm x 289.5mm. Measurements are height x width x depth.

2) -48V dc power sources at all locations suitable for powering the rack panels provided here.

3) For new 1830 PSS systems with OTU switching capability, a Stratum 1 or 2 sync timing source with primary and secondary DS1 timing outputs at appropriate point(s) in the network, and a timing plan for the entire network.

4) All other equipment and cabling not explicitly provided in the Detail Equipment Lists

This proposal package includes budgetary pricing for installation and engineering services.

This Pricing covers only those services and materials specifically detailed in the Installation Services section (q.v.). However, upon request, Nokia can expand the installation and services proposal to cover additional items the customer may

feel is needed.

Disclaimer

Nokiahas carefully compiled the customer provided fiber plant data and applied advanced knowledge to design a network compliant to the customer requirements, specifications and limitations of the positioned product(s).
The performance of the network design established using Nokia´s Engineering Planning Tool is intrinsically dependent upon accurate and reliable Fiber Optics Characterization (FOC)(*) input.
If the FOC data provided by the customer is incomplete, or significantly deviating versus the deployed fiber plant, Nokia may not be able to guarantee the designed network performance. (**)
This condition may imply an inaccurate Bill Of Material (BOM), necessity of an engineering redesign and impact on the project delivery timeline and cost projection. Nokia bears no responsibility or liability for consequential damage of any kind.
With recognition of the relevance of accurate Fiber Optics Characterization data during the design phase, Nokia is offering the FOC measurement as a charged Service. In the latter case, if Nokia is performing the measurements, it is responsible and accountable for the methodology and results of the measurement service. This includes the statement of compliancy of the fiber plant and design feasibility.
In case this FOC service is not requested by the customer, it will be the customer´s responsibility to ensure the fiber plant conforms to the provided specifications. Further activities which Nokia might need to perform to ensure it (fiber cleaning, remove/add connectors/etc) could be subject to be charged to the customer

(*)Fiber Optics Characterization comprises fiber type, optical line attenuation (including office losses) as function of the wavelength, accurate distances, OTDR measurement, Chromatic Dispersion (CD) data, Polarization Mode Dispersion (PMD) data.
(**) In case of a network design including Raman amplifiers, additional requirements require adherence:

- Maximum of 0.5 dB office loss (from NE to OSP fiber).
- Maximum losses due to splices within 10 km (depending on total span loss) of the Raman-NE should be < 0.5 dB.
- Optical Return Loss (ORL) from any single point reflection should be greater than 33 dB.
- Total ORL from the OSP fiber (as measured at the NE using OTDR trace) should be greater than 26 dB for NZ-DSF fibers and greater

601 Data Drive
Plano, TX 75075

Part No.	DESCRIPTION	List Price	Discount	Discounted Price	System Quantity Extended	Extended Discounted Price	EPH-RTR-1	MLK-RTR-1		NSP LPs
7750 SR-7s										
3HE13847AA	7750 SR-7s DC complete chassis bundle, shipped with all common hardware. Control Redundant. Includes: (1) 3HE11905AA - CHAS - 7750 SR-7s CHASSIS, (1) 3HE12314AA - CMA - 7750 SR-7s DUAL, (2) 3HE11304AA - CPM - 7750 SR-s CPM-7s/14s, (4) 3HE11315AA - SFM - 7750 SR-7s/14s, (4) 3HE11312AA - FAN - 7750 SR-7s/14s FAN TRAY , (1) 3HE11180AA - CHAS - 7750 SR-7s/14s LVDC POWER SHELF, (3) 3HE11185AA - PSU - LVDC 6kw POWER SUPPLY, (1) 3HE11181AA - COM - 7750 SR-7s/14s COMMUNICATION CARD Note: LVDC Power Shelf includes the filler panels for the PSU. Additional items in which will need to be purchased separately are; Impendance Panels in all empty slots (XCM-s, XMA-s, CPM-s), LVDC power shelf accessory kit and power lug kit, and optional air filter door kit. Chassis accessory kit included	$385,000.00	50%	$192,500.00	2	$385,000.00	1	1		
3HE11305AA	7750 SR-7s XCM (XMA Control Module). Provides up to 4.8Tb of slot switching capacity. Accepts (1) 7750 SR-s XMA 7750 SR-s XMA (Expandable Media Adapter), 2x FP4 complex, performance restricted to 1.6T FD, port restricted to 16-connectors Universal QSFP28. Core Router (CR) scale feature set (1024 per complex = h/w queues, 1024 per complex = egress policers)	$58,000.00	50%	$29,000.00	2	$58,000.00	1	1		
3HE13740AA	This card is based off "3HE11307xA - XMA - SR-s 2.4T 36pt QSFP28 to 3.6T" licensed to 1.6T throughput and 16-connectors hard license enabled. Software scale upgradeable to ER or HE feature set. Hardware performance upgradeable from 1.6T to 2.4T or 3.6T intelligent fan-in/fan-out.Hardware performance upgradeable from 3.6T to 4.8T or 12T intelligent fan-in/fan-out.	$533,333.00	50%	$266,666.50	2	$533,333.00	1	1		535
3HE15808AA	SR - OS - 7450/7750/7950 R20.x LICENSE	$10,000.00	50%	$5,000.00	2	$10,000.00	1	1		
3HE07464AA	RTU - SROS VPLS512	$30,000.00	50%	$15,000.00	2	$30,000.00	1	1		
3HE07467AA	RTU - SROS VLL4k	$30,000.00	50%	$15,000.00	2	$30,000.00	1	1		
3HE13830AA	SROS EVPN Service Right To Use License. A per system license. Allows the use EVPN for VXLAN and/or MPLS tunnels.	$30,000.00	50%	$15,000.00	2	$30,000.00	1	1		
3HE07469AA	RTU - SROS SAP32k	$5,000.00	50%	$2,500.00	2	$5,000.00	1	1		
									$1,081,333.00	
7210 SAS-Sx Satellite										
3HE11597AA	SYS - 7210 SAS-Sx 46F 2C 4SFP+ system includes; (1) Fixed Fans, (2) Hot swappable power supply slots, (2) Repaceable Air Filters, Accepts(46) 100/1000 SFP + 2 Combo + (4) SFP+. Supports stacking. Does not include power supplies. Does not include 7210 SAS Operating Software or usage licenses.	$31,000.00	40%	$18,600.00	2	$37,200.00	1	1		30
3HE10837AA	PS - 210 WBX, 7210 Sx 100G -48VDC (FtoB)	$1,800.00	40%	$1,080.00	4	$4,320.00	2	2		
3HE11471EA	OS-7210 SAS-Sx 10/100 Base Lic Sat R21.X	$2,000.00	40%	$1,200.00	2	$2,400.00	1	1		
Optics									**$43,920.00**	
3HE04823AA	SFP+ 10GE LR - LC ROHS6/6 0/70C	$3,995.00	40%	$2,397.00	80	$191,760.00	40	40		
3HE10551AA	QSFP28 - 100GBASE-SR4 ROHS6/6 0/70C	$6,500.00	40%	$3,900.00	12	$46,800.00	6	6		
3HE12195AA	QSFP28 - 100GBase-SR10/10x10G SR 0/70C	$28,000.00	40%	$16,800.00	19	$319,200.00	10	9		
3HE13944AA	1x MPO-24 to 12 (10 used) duplex LC breakout, MMF	$2,800.00	40%	$1,680.00	19	$31,920.00	10	9		
3HE13895AA	Optical patch panel 1RU holder to host 4 pluggable modules	$1,980.00	40%	$1,188.00	6	$7,128.00	3	3		
3HE13590AA	24F MMF MPO-24 to MPO-24 jumper, 3M	$1,200.00	40%	$720.00	20	$14,400.00	10	10		
				HARDWARE TOTAL:		**$1,736,461.00**			**$611,208.00**	
NSP										
3HE16252AA	NSP 20 PLATFORM BASE	$80,000.00	72%	32,000.00	1	$32,000.00				
3HE16254AA	NSP LICENSE POINT	$60.00	72%	24.00	1,130	$27,120.00				
3HE16255AA	NSP HIGH AVAILABILITY FP	$25.00	72%	10.00	1,130	$11,300.00				
3HE16001AA	NSP CLASSIC MANAGEMENT FP	$25.00	72%	10.00	1,130	$11,300.00				
3HE16003AA	NSP NETWORK INFRASTRUCTURE MANAGEMENT FP	$25.00	72%	10.00	1,130	$11,300.00				
3HE16005AA	NSP SERVICE ASSURANCE FP	$25.00	72%	10.00	1,130	$11,300.00	**$104,320.00**			
3HE07155AA	SERVICE PORTAL-EXPRESS	$200,000.00			1	$200,000.00				
				NMS Systems TOTAL:		**$304,320.00**				
				Total		**$2,040,781.00**				

NOKIA

Customer: County of Grant Public Utility District2

Offer #: 20.US.920324.02
Offer Name: MPLS and DWDM
Date: 7/1/2021

ION Services Price Summary

301036679	**Engineering**	**$5,586**
301071387	**Site Materials**	**$10,623**
301036786	**Installation**	**$0**
301091625	**Project Management Services**	**$16,395**
Multiple	**Integration**	**$164,756**
	TOTAL DEPLOYMENT AND INTEGRATION SERVICES:	**$197,360**
301013231	**Technical Support**	**$247,678**
Multiple	**Repair Services**	**$70,941**
Multiple	**SSP**	**$161,186**
	TOTAL MAINTENANCE SERVICES:	**$479,805**
	GRAND TOTAL ALL SERVICES:	**$677,165**

Category	OI Code	Item Description		Unit Price 2021	Unit Price 2022	Qty 2021	Qty 2022	Ext Price 2021	Ext Price 2022	Total Price
ENGINEERING										
Site Survey	301036679	Site Survey, including T&L (Site survey for IP to be included in the optical site survey pricing).	2 Core Sites	$0				$0	$0	$0
Installation Engineering	301036679	Installation Engineering	2 Core Sites	$5,586		1		$5,586	$0	$5,586
							ENGINEERING Annu	**$5,586**	**$0**	**$5,586**
SITE MATERIALS										
Site Materials	301071387	Installation Related Material - 7750 SR-7s and 7210's	4 nodes	$10,623		1		$10,623	$0	$10,623
							SITE MATERIALS An	**$10,623**	**$0**	**$10,623**
INSTALLATION										
Installation Services	301036786	Installation, including T&L	7750 SR-7s and 7210s	$33,896		0		$0	$0	$0
							INSTALLATION Annu	**$0**	**$0**	**$0**
PROJECT MANAGEMENT										
Project Management	301091625	Program Management, remote		$16,395		1		$16,395	$0	$16,395
							PROJECT MANAGEM	**$16,395**	**$0**	**$16,395**
INTEGRATION										
Design	3HE02941AA	Network Architecture and Design - High Level Design (HLD)		$26,666		1		$26,666	$0	$26,666
Design	3HE02941AA	On site design workshop		$7,866		0		$0	$0	$0
Design	3HE02941AA	Migration strategy - 9 existing sites		$12,966		1		$12,966	$0	$12,966
Integration	3HE06631AA	Network Integration - 2 x 7750 & 2 x 7210s from County of Grant's NOC		$63,036		1		$63,036	$0	$63,036
Integration	3HE06631AA	Remote migration support for 9 sites (10 x ASR9000 to 7750s)		$18,436		1		$18,436	$0	$18,436
Integration	3HE02934AA	NSP NFM-P R20 remote integration		$14,566		1		$14,566	$0	$14,566
Integration	3HE06631AA	Network Integration - add network services for 6 new sites	Phase 2	$29,086		1		$29,086	$0	$29,086
								$0	$0	$0
							INTEGRATION Annu	**$164,756**	**$0**	**$164,756**
TECHNICAL SUPPORT										
Technical Support Gold	301013231	TS Gold, 7750 SR-7s (Qty.-2)	Production	109,291.27	109,291.27	1	1	$109,291	$109,291	$218,583
Technical Support Gold	301013231	TS Gold, 7210 SAS-Sx (Qty.-2)	Production	1,549.04	1,549.04	1	1	$1,549	$1,549	$3,098
Technical Support Gold	301013231	TS Gold, NFM-P	Production	12,998.50	12,998.50	1	1	$12,999	$12,999	$25,997
							TECHNICAL SUPPOR	**$123,839**	**$123,839**	**$247,678**
REPAIR SERVICES										
RES AED	301048450	Repair Advances Exchange Next Day, 7750 SR-7s (Qty.-2)	Production	$33,367	$33,367	1	1	$33,367	$33,367	$66,734
RES AED	301048450	Repair Advances Exchange Next Day, 7210 SAS-Sx(Qty.-2)	Production	$2,104	$2,104	1	1	$2,104	$2,104	$4,208
							REPAIR SERVICES An	**$35,471**	**$35,471**	**$70,941**
SSP										
SSP (7x50, 7710 & 7210)	3HE01807AB	SSP 7750SR-1 (Qty.-2)	Production	33,850.82	33,850.82	1	1	$33,851	$33,851	$67,702
SSP (7x50, 7710 & 7210)	3HE01807AB	SSP 7210 SAS-Sx (Qty.- 2)	Production	878.40	878.40	1	1	$878	$878	$1,757
SRS NFM-P	3HE00407XZ	SRS NFM-P, n years	Production	20,864.00	20,864.00	1	1	$20,864	$20,864	$41,728
8-5 M-F Technical Support and SW Upgrade	301013231	Service Portal Express	Production	25,000.00	25,000.00	1	1	$25,000	$25,000	$50,000
							SSP Annual SubTota	**$80,593**	**$80,593**	**$161,186**
				239,902.55	239,902.55					

			DQT Price	Uplift
301036679	Site Survey, including T&L	2 Core Sites	$2,738	
301036679	Installation Engineering	2 Core Sites	$3,954	
301036786	Installation, including T&L	7750 SR-1s - 2	$15,429	

Support Pricing Calculation

Take the product sale price (any additional management adjustments or extra discounts are not included in the maintenance calculation) and multiply it by the below percentages.

- Tech Support -Gold (include the hardware, SW, and RTUs in the calculation)
- Return for Repair- Advanced Exchange Next Business Day (Include only the hardware in the calculation
- Software Subscription Plan (include all products, SW, and RTUs in the calculation)

· 7750 TS-Gold= 3% of PSP annually

· 7750 RES-AED=4% of PSP annually

· 7750 SSP= 3% of PSP annually

· 7210 TS-Gold= 4% of PSP annually

· 7210 RES-AED= 4% of PSP annually

· 7210 SSP= 3% of PSP annually

· 7210 TS-Gold= 4% of PSP annually

· 7210 RES-AED= 4% of PSP annually

· 7210 SSP= 3% of PSP annually

· 1830 TS-Gold= 4% of PSP annually

· 1830 RES-AED= 4% of PSP annually

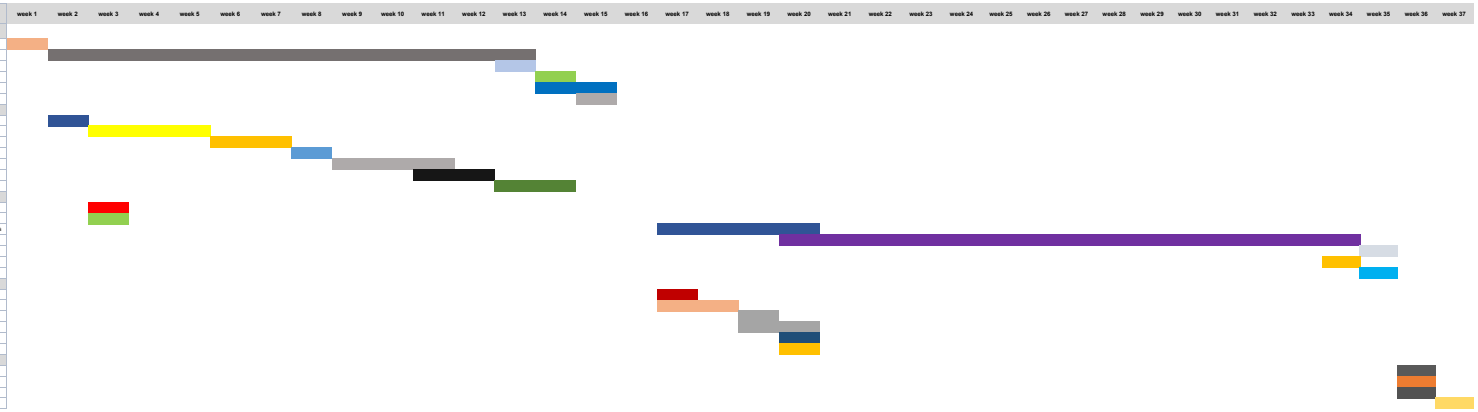
· 1830 SSP= 3% of PSP annually

· NSP NFM-T/P SRS = 20% of NFM-P/T PSP annually

· NFM-T/P TS-Gold = 5% of NFM-P/T PSP annually

· Service Portal Express- TS and SSP= $25K /yr.

Contract Documents 430-10427 Exhibit "K", 07/01/2021	
Procurement of Material	
Receipt and processing of PO and NTP 1	2 days
Hardware Procurement Time	60 days
Material Shipment	7 days
Receive and inspect hardware	2 days
Staging/Test POC	5 days
POC Signoff	3 days
Network Architecture and Design	
Remote Design workshop/signoff of design	5 days
Preparation of Network Design Documents	15 days
Develop Migration Strategy (from ten (10) Cisco ASR9000s to nine (9) Nokia 7210 SAS-Sx)	10 days
Review, approval and sign off of docs (Design Docs/Migration Strategy)	5 days
Prepare configuration files	15 days
Start development of installation MOP	10 days
Start development of site to site testing / overall testing procedures	10 days
Installation of Equipment (17 sites)	
Perform site surveys - GCPUD to perform w/ Nokia direction	5 days
Order and deliver installation-related materials	15 days
Installation of equipment - GCPUD to perform w/ Nokia direction	15-20 days
(Migration) One maint windows per week, 1 routers per maint window	75 days
Perform final acceptance tests	5 days
Prepare testing acceptance docs	5 days
Obtain final acceptance on all testing	5 days
Installation of Network Management Software and Training	
Readiness for remote installs of all software (kickoff)	1-2 days
Completed CIQs for NFM-P / NFM-T / NSP software	2-5 day
Remote installation and integration of NFM-P / NFM-T / NSP software	5 days
Remote installation and integration of vCPAA software	2 days
Remote installation of Service Portal Express software	2 days
NFM-P / NFM-T / NSP software Signoff	1 days
Customer Acceptance	
Close-Out Documentation	5 days
Maintenance Entitlements	5 days
Final Invoicing	5 days
Lessons Learned	5 days



September 2021

September 2021

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October 2021

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Aug 29	30	31	Sep 1	2 9:00am Sunland Tour (Larry)	3	4
5	6 8:00am HOLIDAY - Commission Meetings	7 2:00pm 1:1 GM/Commissioner Meeting with Kevin/Larry (Microsoft Teams Meeting/Kevin's	8	9 3:00pm 1:1 GM/Commissioners - Kevin/Tom (Microsoft Teams Meeting/Kevin's Office) - Melissa	10	11 1:00pm Desert Aire Annual Summit (Tom) (Virtual - details tbd) - Commission Meetings
12	13	14 9:30am Commission Meeting (Microsoft Teams) - Melissa Leonard	15 8:00am WPUDA Meeting (Judy) (Virtual) - 12:00pm 1:1 GM/Commissioners Lunch with	16 8:00am WPUDA Meetings (Judy) (Virtual) - Commission Meetings	17 8:00am WPUDA Meetings (Judy) (Virtual) - Commission Meetings	18
19	20	21	22 8:00am WPUDA Water Workshops (Virtual) 12:00pm 1:1 GM/Commissioners Lunch with Kevin/Nelson	23 8:00am WPUDA Water Workshops (Virtual)	24 8:00am WPUDA Water Workshops (Virtual)	25
26	27	28 9:30am Commission Meeting (Microsoft 12:00pm Grant PUD / Grant County 12:00pm Lunch with County	29	30	Oct 1	2

October 2021

October 2021

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

November 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Sep 26	27	28	29	30	Oct 1	2
3	4	5	6	7	8	9
10	11	12 9:30am Commission Meeting (Microsoft 2:00pm Public Budget 6:00pm Public Budget	13	14 8:00am WPUDA Budget Committee Meeting 6:00pm Public Budget Hearing (Microsoft	15	16
17	18	19	20	21	22	23
24	25	26 9:30am Commission Meeting (Microsoft 12:00pm Lunch with County	27	28	29	30
31	Nov 1	2	3	4	5	6

November 2021

November 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December 2021

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Oct 31	Nov 1	2	3	4	5	6
7	8	9 9:30am Commission Meeting (Microsoft Teams) - Melissa Leonard	10	11 8:00am HOLIDAY - Commission Meetings	12	13
14	15	16	17 8:00am WPUDA Meetings (Judy) (TBD)	18 8:00am WPUDA Meetings (Judy) (TBD) 1:00pm Financial Advisory Committee (FAC) (Judy and Larry) (Microsoft Teams	19 8:00am WPUDA Meetings (Judy) (TBD)	20
21	22	23 9:30am Commission Meeting (Microsoft 12:00pm Grant PUD / Grant County 12:00pm Lunch with County	24	25 8:00am HOLIDAY - Commission Meetings	26	27
28	29	30	Dec 1	2	3	4