



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Contract #: NASPO ValuePoint - 05715
Attn: Mark Ketchum
220 South 1st Street
Broken Arrow, OK 74013
e-mail: MKetchum@BrokenArrowOK.Gov
Phone: 918-697-1980

Quoted by: LightSpeed Technologies
1829 Celeste Drive, Building 1
Wall, NJ 07719
Tel: (732) 556-0086
Fax: (732) 782-0305
Sales Person: Scott Nelson
e-mail: SNelson@LightSpeedT.com
Mobile: (972) 839-2641
Date: April 6, 2020

This quotation is valid for 60 days

Microwave System Pricing Summary - 1+1 Monitored Hot-Standby

Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total
Equipment								
Wavence 9500 MPR Microwave Packet Radio - 1+1 Monitored Hot-Standby, UBT-S ODU's	\$11,134.40	\$28,019.17	\$11,484.40	\$0.00	\$0.00	\$5,600.00	\$0.00	\$56,237.97
Antennas, Line and Materials	\$12,413.88	\$21,263.95	\$15,981.97	\$0.00	\$0.00	\$0.00	\$0.00	\$49,659.80
DC Power	\$1,820.00	\$1,820.00	\$1,820.00	\$0.00	\$0.00	\$910.00	\$0.00	\$6,370.00
Equipment Subtotal:	\$25,368.28	\$51,103.12	\$29,286.37	\$0.00	\$0.00	\$6,510.00	\$0.00	\$112,267.77
Services								
Microwave Engineering (Path Surveys & Design, Frequency Planning, Licensing and N/W Design)	\$3,906.50	\$6,448.00	\$3,906.50	\$0.00	\$0.00	\$0.00	\$7,610.00	\$21,871.00
Microwave Installation and Test	\$22,140.00	\$40,908.00	\$24,396.00	\$0.00	\$0.00	\$0.00	\$32,372.00	\$119,816.00
Services Subtotal:	\$26,046.50	\$47,356.00	\$28,302.50	\$0.00	\$0.00	\$0.00	\$39,982.00	\$141,687.00
Support								
Wavence Remote Technical Support, Repair and Software Subscription - 3 Years							\$5,865.00	\$5,865.00
Support Total:							\$5,865.00	\$5,865.00

Microwave System Total: \$259,819.77
Microwave System Management Adjustment: (\$35,390.00)
Adjusted Microwave System Total: \$224,429.77

IP/MPLS System

Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total
Equipment								
7705 SAR Service Aggregation Routers	\$5,617.85	\$5,617.85	\$5,617.85	\$15,018.85	\$15,018.85	\$6,036.28	\$0.00	\$52,927.53
Equipment Subtotal:	\$5,617.85	\$5,617.85	\$5,617.85	\$15,018.85	\$15,018.85	\$6,036.28	\$0.00	\$52,927.53
Services								
MPLS Engineering	\$2,100.00	\$2,100.00	\$2,100.00	\$2,100.00	\$2,100.00	\$0.00	\$21,000.00	\$31,500.00
MPLS Installation, Testing & Integration	\$6,072.00	\$6,072.00	\$6,072.00	\$6,072.00	\$6,072.00	\$0.00	\$24,652.00	\$55,012.00
Services Subtotal:	\$8,172.00	\$8,172.00	\$8,172.00	\$8,172.00	\$8,172.00	\$0.00	\$45,652.00	\$86,512.00
Support								
MPLS & NFM-P Remote Technical Support, Repair and Software Subscription - 3 Years							\$68,229.00	\$68,229.00
Support Total:							\$68,229.00	\$68,229.00

IP/MPLS System Total: \$207,668.53
MPLS System Management Adjustment: (\$62,675.00)
Adjusted IP/MPLS System Total: \$144,993.53

Combined System - Microwave with IP/MPLS

Combined System Grand Total (with Adjustments): \$369,423.30
Combined System Management Adjustment for Concurrent Purchase & Implementation: (\$39,440.00)
Adjusted Combined System Grand Total: \$329,983.30



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Contract #: NASPO ValuePoint - 05715
Attn: Mark Ketchum
220 South 1st Street
Broken Arrow, OK 74013
e-mail: MKetchum@BrokenArrowOK.Gov
Phone: 918-697-1980

Quoted by: LightSpeed Technologies
1829 Celeste Drive, Building 1
Wall, NJ 07719
Tel: (732) 556-0086
Fax: (732) 782-0305
Sales Person: Scott Nelson
e-mail: SNelson@LightSpeedT.com
Mobile: (972) 839-2641
Date: April 6, 2020

This quotation is valid for 60 days

Training	
9500 MPR Operation & Maintenance	See Course List on Training Tab
7705 SAR Operation & Maintenance	See Course List on Training Tab
NSP/NFM-P Operation & Maintenance	See Course List on Training Tab

NOTES:

- 1) Subject to terms and conditions of NASPO Valuepoint Contract 05715. Where NASPO contract is silent, LightSpeed Technologies Terms and Conditions will apply.
- 2) Prices do not include taxes. Freight costs are included.
- 3) **Payment Terms:** Payment due Net 30 days.
- 4) **Please make Purchase Orders out to:**
LightSpeed Technologies, Inc.
Attn: John C. Brannon
1829 Celeste Drive, Building 1
Wall, NJ 07719
732-556-0086 Office
- 5) **For expedited processing, Orders should be faxed, or emailed, to John C. Brannon at fax # 732-782-0305, or (jcbrannon@lightspeedt.com).**
- 6) Prices quoted are valid for 60 days.
- 7) Pricing is valid only for the equipment, equipment features, and services included in this quote. Any equipment item, equipment feature, installation item, or service not explicitly quoted is not included in this pricing, and any addition of such will require a revised quote with modified pricing.
- 8) Pricing for equipment and services are considered budgetary until the initial engineering assessment can be made -- site surveys, path surveys, and frequency coordination (PCN). Results of the surveys and PCN may impact the antenna elevations, antenna sizes or radio frequencies, and associated materials.
- 9) Installation services are priced on the assumption of work progressing as one continuous scope with no stoppages and a 10-hour workday, Monday through Saturday. Other conditions for site readiness, site availability, permits, etc. are detailed in the accompanying Scope of Work. Project delays not due to LightSpeed or LightSpeed's Subcontractors or Suppliers may incur additional charges including remobilization costs.
- 10) The Wavence 9500 MPR, 7705 SAR and NFM-P come with a standard warranty of one year. An additional extended warranty can be provided for up to 5 years. Pricing is provided for 3 years of extended warranty coverage, including remote technical support, repair services, and software subscription services.
- 11) Remote Technical Support services do NOT include software upgrade support. A Software Subscription Plan must be purchased for upgrade support.



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
Sales Person Scott Nelson
e-mail: SNelson@LightSpeedT.com
Tel: (972) 839-2641

Equipment: Wavence 9500 MPR Microwave Packet Radio

Configuration: 1+1 Monitored Hot-Standby UBT-S Radios, With 1+1 Hot-Standby MSS-8

Item	Mfg.	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total	NASPO	Discount	NASPO	Ext. Price	Notes
												ValuePoint	%	ValuePoint		
												MSRP		Unit Price		
UBT Outdoor Radio Units and Accessories																
1	Nokia	3DB29106AA	UBT-S 5.8-6GHz HP		2	2			1		5	\$8,000.00	65.0%	\$2,800.00	\$14,000.00	
2	Nokia	3DB29111AA	UBT-S 10-11 GHz HP	2	2				1		5	\$8,000.00	65.0%	\$2,800.00	\$14,000.00	
3	Nokia	3DB28590AA	AIM-S 6GHz 252.04 MHz SB1		2	2					4	\$1,500.00	65.0%	\$525.00	\$2,100.00	
3	Nokia	3DB28590BA	AIM-S 6GHz 252.04 MHz SB2								0	\$1,500.00	65.0%	\$525.00	\$0.00	
4	Nokia	3DB28590CA	AIM-S 6GHz 252.04 MHz SB3								0	\$1,500.00	65.0%	\$525.00	\$0.00	
5	Nokia	3DB28210AA	AIM-S 11GHz 490-500-520-530MHz SB1	2	2						4	\$1,500.00	65.0%	\$525.00	\$2,100.00	Final selection of diplexer range following PCN
6	Nokia	3DB28210BA	AIM-S 11GHz 490-520-530MHz SB2								0	\$1,500.00	65.0%	\$525.00	\$0.00	Final selection of diplexer range following PCN
7	Nokia	3DB28210CA	AIM-S 11GHz 490-520-530MHz SB3								0	\$1,500.00	65.0%	\$525.00	\$0.00	Final selection of diplexer range following PCN
8	Nokia	3DB28210DA	AIM-S 11GHz 490-500-520-530MHz SB4								0	\$1,500.00	65.0%	\$525.00	\$0.00	Final selection of diplexer range following PCN
9	Nokia	3CC58367AA	Coupler 10 dB 6GHz UBT		1	1					2	\$886.00	65.0%	\$310.10	\$620.20	
10	Nokia	3CC58350AA	Coupler 10 dB 10/11 GHz UBT	1	1						2	\$886.00	65.0%	\$310.10	\$620.20	
UBT Licenses																
11	Nokia	3MU00177A8AA	RTU 100Mbps UBT-S Capacity	2							2	\$3,000.00	65.0%	\$1,050.00	\$2,100.00	
12	Nokia	3MU00177ACAA	RTU 160Mbps UBT-S Capacity			2					2	\$3,500.00	65.0%	\$1,225.00	\$2,450.00	
13	Nokia	3MU00180A8AA	RTU 100Mbps UBT-S Capacity		2						2	\$3,000.00	65.0%	\$1,050.00	\$2,100.00	
14	Nokia	3MU00180ACAA	RTU 160Mbps UBT-S Capacity		2						2	\$3,500.00	65.0%	\$1,225.00	\$2,450.00	
15	Nokia	3MU00177BDAA	RTU UBT-S Adp Mod	2		2					4	\$1,500.00	65.0%	\$525.00	\$2,100.00	
14	Nokia	3MU00180BDAA	RTU UBT-S Adp Mod		4						4	\$1,500.00	65.0%	\$525.00	\$2,100.00	
Microwave Service Switch (MSS)																
15	Nokia	3EM22715AH	9500 MPR Shelf Kit w/FanEvo - HSv2		1						1	\$2,150.00	65.0%	\$752.50	\$752.50	
16	Nokia	3DB18163AB	MSS Slot Cover - Blank Plate 1/2H		2						2	\$40.60	65.0%	\$14.21	\$28.42	
17	Nokia	3EM24105AA	Fan Alarm Cable - 25 foot		1						1	\$175.00	65.0%	\$61.25	\$61.25	
18	Nokia	3DB18788BA	CoreEvo-10G								2	\$3,010.00	65.0%	\$1,053.50	\$2,107.00	Common spares with Wagoner County system
19	Nokia	3DB19017AB	Ethernet Access Module Version2 with PoE		2						2	\$2,400.00	65.0%	\$840.00	\$1,680.00	Common spares with Wagoner County system
20	Nokia	3CC50120AA	DC injector plug-in	2	2	2					6	\$250.00	65.0%	\$87.50	\$525.00	
20	Nokia	3DB17010HAA	Wavence 18 SW Electronic Delivery Kit		1						1	\$1,000.00	65.0%	\$350.00	\$350.00	
21	Nokia	3DB17020BAAA	Wavence 18 uSD Card for CoreEvo-10G		2						2	\$100.00	65.0%	\$35.00	\$70.00	
22	Nokia	3EM23067AAAA	9500 MPR CT License (Per PC Installed)								0	\$500.00	65.0%	\$175.00	\$0.00	Not required -- Web Browser GUI in R18 and higher
Tributary Options																
23	Nokia	3CC50167AA	1000BASE-SX SFP (mm fiber only)	4	8	4					16	\$70.00	65.0%	\$24.50	\$392.00	Common spares with Wagoner County system
24	Nokia	3CC50167AA	1000BASE-SX SFP (mm fiber only)	2	2	2					6	\$70.00	65.0%	\$24.50	\$147.00	
25	Nokia	3MU00085AF	20 ft RJ45 Cat5e Cable	1	1	1					3	\$103.71	65.0%	\$36.30	\$108.90	
Rack and PDU																
26	Nokia	3EM13317AB	Power Distribution Panel with Fuse Alarm Card included		1						1	\$910.00	65.0%	\$318.50	\$318.50	
27	Nokia	695-1001-006	Aluminum Rack Screw Kit		1						1	\$100.00	65.0%	\$35.00	\$35.00	
NFM-P License Points																
28	Nokia	3HE11801DA	NSP: NFM-P STANDARD LP	4	10	4					18	\$190.00	65.0%	\$66.50	\$1,197.00	Quantity based 2 per MSS plus 2 per UBT radio
Manuals and Documentation																
29	Nokia	3EM24226AA	Microwave Factory Test Certificate		1						1	\$1,500.00	65.0%	\$525.00	\$525.00	
30	Nokia	3DB19275AFAA	Wavence 18 O&M Manual Electronic Delivery OLCS								0	\$90.00	65.0%	\$31.50	\$0.00	Common documentation with Wagoner County System
Freight																
31	Nokia	SVC-YGRL-RF1	MW Product Freight per radio rack	1	1	1					3	\$1,142.86	65.0%	\$400.00	\$1,200.00	
Wavence Radio Equipment Subtotal:				\$11,134.40	\$28,019.17	\$11,484.40	\$0.00	\$0.00	\$5,600.00	\$0.00	\$56,237.97				\$56,237.97	



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
Sales Person: Scott Nelson
e-mail: SNelson@LightSpeedT.com
Tel: (972) 839-2641

Center Lines

Tiger Hill CL facing Water Plant = 136' (41.5m)
Water Plant CL facing Tiger Hill = 245' (74.7m)
Water Plant CL facing Yonkers = 85' (25.9m)
Yonkers CL facing Water Plant = 105' (32m)

Equipment: Microwave Antennas, Lines, Ice Shields & Misc. Materials

													NASPO		NASPO		Yonkers CL facing Water Plant = 105' (32m)	
Item	Mfg.	Part Number	Description	Centerline #1 (feet):	136	245	105	Pierce	Coweta	Spares	Undistributed	Total	ValuePoint	Discount	ValuePoint	Ext. Price	Notes	
				Centerline #1 (feet):	Tiger Hill	Water Plant	Yonkers						MSRP	%	Unit Price			
Integrated Antennas for UBT																		
1	Nokia	10046195	SB6-W60D2UBTR, 5.925 - 7.125 , Ant int UBT 6ft 6GHz SP			1	1					2	\$8,603.00	65.0%	\$3,011.05	\$6,022.10	Final antenna sizes and types to be determined by path surveys and RF engineering	
2	Nokia	10046181	SB4-W100EUBTR, 10 - 11.7, Ant UBT Int 4ft 10/11 GHz SP	1		1						2	\$4,250.00	65.0%	\$1,487.50	\$2,975.00	Final antenna sizes and types to be determined by path surveys and RF engineering	
RFS Antennas																		
3	RFS	37500079	PAD8-W57AC7S1R - 6 GHz parabolic ant., 8-ft dia., single pol., w/ radome & 2 struts									0	\$13,961.67	65.0%	\$4,886.59	\$0.00	Final antenna sizes and types to be determined by path surveys and RF engineering	
Ice Shields																		
4	Misc.	1AF24588AAAA	Valmont ice shield KIT - 4ft (ISMD4-R5LL = 800250 (ice shield) + 409081365 (leg mount))	1								1	\$14,770.29	65.0%	\$5,169.60	\$5,169.60	Final site materials to be determined by site surveys	
5	Misc.	1AF24589AAAA	Valmont ice shield KIT - 6ft (ISMD6-R5LL = 800251 (ice shield) + 409081365 (leg mount))			1	1					2	\$18,104.91	65.0%	\$6,336.72	\$12,673.44	Final site materials to be determined by site surveys	
6	Misc.	1AF24587AAAA	Valmont ice shield KIT - 8ft (ISMD8-R5LL = 800252 (ice shield) + 409081365 (leg mount))									0	\$21,667.89	65.0%	\$7,583.76	\$0.00	Final site materials to be determined by site surveys	
7	Misc.	SVC-YGRL-MISCHDW	Misc Hardware Kit (cut over plan)	1		1	1					3	\$2,190.00	65.0%	\$766.50	\$2,299.50	Final site materials to be determined by site surveys	
UBT Installation Material																		
8	Nokia	3CC52210BC	fiber cord MM LC-LC for UBT + MSS-O 25m									0	\$222.00	65.0%	\$77.70	\$0.00		
9	Nokia	3CC52210BD	fiber cord MM LC-LC for UBT + MSS-O 50m	2		2	2					6	\$348.00	65.0%	\$121.80	\$730.80		
10	Nokia	3CC52210BE	fiber cord MM LC-LC for UBT + MSS-O 80m			2						2	\$443.00	65.0%	\$155.05	\$310.10		
11	Nokia	3CC52210BF	fiber cord MM LC-LC for UBT + MSS-O 100m									0	\$570.00	65.0%	\$199.50	\$0.00		
12	Nokia	3CC50095AA	Fiber storage - rack mount (25 m)	2		4	2					8	\$313.71	65.0%	\$109.80	\$878.39		
13	Nokia	1AB235300005	OCTIS connector housing for fibers	2		4	2					8	\$59.00	65.0%	\$20.65	\$165.20		
14	Nokia	1AB235300004	OCTIS connector housing for RJ45	2		4	2					8	\$53.00	65.0%	\$18.55	\$148.40		
15	Nokia	3CC52199AC	75m Preassembled CAT5e R2TC/RJ45									0	\$1,081.00	65.0%	\$378.35	\$0.00		
16	Nokia	3CC52199AD	100m Preassembled CAT5e R2TC/RJ45									0	\$1,408.00	65.0%	\$492.80	\$0.00		
17	Nokia	1AD040130004	Ground kit -- (qty 3 per run, based on length)	6		16	6					28	\$58.52	65.0%	\$20.48	\$573.50		
18	Nokia	1AB328430001	Lightning arrestor RJ-45 router ouput (MPRe)	2		4	2					8	\$725.25	65.0%	\$253.84	\$2,030.70		
19	Nokia	1AB119710002	BNC-bananas adapter for antenna alignment	1		1	1					3	\$86.00	65.0%	\$30.10	\$90.30		
Other Installation Materials																		
20	Misc.	10031054	Kit Sway Bar 6ft Refl (SMA-SK-60-2000A)			1	1					2	\$1,296.00	65.0%	\$453.60	\$907.20	Final site materials to be determined by site surveys	
21	Misc.	409081635	UNIV ADJ LEG MT- UP TO 10 3/4 LEG (Ant. Pipe Mount/Ice Shield)	1		2	1					4	\$2,116.00	65.0%	\$740.60	\$2,962.40	Final site materials to be determined by site surveys	
22	Misc.	1AF25490ABAA	Angle Member Adapter Kit, 3/8in Stainless Steel (Valmont ADAP-O) (10 pack)	5		11	4					20	\$351.77	65.0%	\$123.12	\$2,462.40	Final site materials to be determined by site surveys	
23	Misc.	1AF19821AAAA	Cushion hangers - (4) 9.9mm and (5) 6.1mm barrel cushion that fits into 1 5/8in snap-in (Qty. 10) - (Valmont BC144384)	5		11	4					20	\$151.61	65.0%	\$53.06	\$1,061.28	Final site materials to be determined by site surveys	
24	Misc.	SVC-YGRL-MISCHDW	Misc Hardware Kit (cut over plan)	1		1	1					3	\$2,190.00	65.0%	\$766.50	\$2,299.50	Final site materials to be determined by site surveys	
Freight																		
25	Nokia	SVC-YGRL-AS1	MW Product Freight per small antenna									0	\$857.14	65.0%	\$300.00	\$0.00	Quantities cover addition freight ice shields, if required	
26	Nokia	SVC-YGRL-AS2	MW Product Freight per medium antenna	2		1						3	\$1,428.57	65.0%	\$500.00	\$1,500.00	Quantities cover addition freight ice shields, if required	
27	Nokia	SVC-YGRL-AS3	MW Product Freight per large antenna (or HI and AK)			2	2					4	\$2,285.71	65.0%	\$800.00	\$3,200.00	Quantities cover addition freight ice shields, if required	
28	Nokia	SVC-YGRL-RF1	MW Product Freight per radio rack	1		1	1					3	\$1,142.86	65.0%	\$400.00	\$1,200.00	For cables and materials	
Antenna Equipment Subtotal:					\$12,413.88	\$21,263.95	\$15,981.97	\$0.00	\$0.00	\$0.00	\$0.00	\$49,659.80				\$49,659.80		



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
Sales Person: Scott Nelson
e-mail: SNelson@LightSpeedT.com
Tel: (972) 839-2641

Equipment: -48 VDC Rectifiers

											NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes	
Item	Mfg.	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total					
1	DuraComm	RM-2548M	AC/DC Rack Mount Power Supply with Meter, Input 110/220VAC, Output 48VDC, 25A	2	2	2			1		7	\$2,600.00	65.0%	\$910.00	\$6,370.00	
DC Power Equipment Subtotal:				\$1,820.00	\$1,820.00	\$1,820.00	\$0.00	\$0.00	\$910.00	\$0.00	\$6,370.00				\$6,370.00	



Customer: City of Broken Arrow

Project: Microwave Ring Closure 1+1 MHSB - UBT

Proposal # SN.191203AA.01

Date: April 6, 2020

DC Power Calculations

Tiger Hill
Water Plant
Yonkers
Pierce
Coweta

Specifications

Battery Reserve Time (Hours)	8	<== 8 Hours Typical
Battery Recharge Time (Hours)	24	<== 24 Hours Typical
Battery Type Calculation Factor	1.1	<== 1.1 for Lead Acid or 1.4 for NiCad
System Voltage	48	
Load Growth Factor	25%	<== (percent desired add'l capacity.)

Equipment Load

	Watts	194	267	194
9500 MPR Shelf Kit w/Alarm FAN Evo-HSv3	25	1	1	1
CorEvo-10G	36	1	1	1
Ethernet Access Card 10G (EAC-10G)	30	2	2	2
MPT-XP-HQAM L6GHz low	73		1	1
MPT-XP-HQAM 11GHz low	73	1	1	

Calculations

Equipment Load @ 48VDC (Amps)	4	6	4
Total Load w/Growth Factor (Amps)	5	7	5
Min Battery Capacity @ 8 Hours (AH)	42	56	42
Actual Battery Size (AH)			
Calculated Charger Size	7	10	7
Actual Charger Size (Amps)			



Customer: City of Broken Arrow
 Project: Microwave Ring Closure 1+1 MHSB - UBT
 Quote #: SN.191203AA.01
 Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
 Sales Person Scott Nelson
 e-mail: SNelson@LightSpeedT.com
 Tel: (972) 839-2641

Services: Microwave Engineering
 Configuration: Path Design, Frequency Planning & Licensing, Network Design

Item	Mfg.	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributec	Total	NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes
Path Survey (<= 11 GHz)																
1		SVC-KWIE-ENG-TSE10	Path Survey (1st hop for a connected multi-hop system)	0.5	0.5						1.0	\$11,237.14	65.0%	\$3,933.00	\$3,933.00	
2		SVC-KWIE-ENG-TSE11	Path Survey (Each single path in a multi-hop system, not connected)		0.5	0.5					1.0	\$11,237.14	65.0%	\$3,933.00	\$3,933.00	
3		SVC-KWIE-ENG-TSE12	Path Survey (Each single path in a multi-hop system, not connected)								0.0	\$11,237.14	65.0%	\$3,933.00	\$0.00	
4		SVC-KWIE-ENG-TSE13	Path Survey Air Fare (per survey)(1 Surveyor with equipment shipment)							1.0	1.0	\$11,428.57	65.0%	\$4,000.00	\$4,000.00	
Path Design																
5		SVC-KWIE-ENG-TSE16	System Map (1-10 paths)							1.0	1.0	\$285.71	65.0%	\$100.00	\$100.00	
6		SVC-KWIE-ENG-TSE18	Path Design (per path)	0.5	1.0	0.5					2.0	\$428.57	65.0%	\$150.00	\$300.00	
7		SVC-KWIE-ENG-TSE19	Path Performance Calculations (per path)	0.5	1.0	0.5					2.0	\$428.57	65.0%	\$150.00	\$300.00	
Frequency Selection and Coordination																
8		SVC-KWIE-ENG-TSE20	Frequency Selection (2, 6, 6.7, 11 GHz bands / per path)	0.5	1.0	0.5					2.0	\$2,428.57	65.0%	\$850.00	\$1,700.00	
9		SVC-KWIE-ENG-TSE22	Normal 30-day Prior Coordination (per system)							1.0	1.0	\$885.71	65.0%	\$310.00	\$310.00	
FCC License Application																
10		SVC-KWIE-ENG-TSE29	FCC License Application Prep (/Mod) (per site / Form 601) (2)	1.0	1.0	1.0					3.0	\$1,328.57	65.0%	\$465.00	\$1,395.00	
11		SVC-KWIE-ENG-TSE43	FCC License Fees (Note 1.5)(new site)(per site)	1.0	1.0	1.0					3.0	N/C	N/C	N/C	N/C	FCC doesn't charge govt. agencies for licensing
Network Engineering																
12		SVC-KWIE-ENG-TSE35	Network Engineer (per Hour)	4.0	4.0	4.0					16.0	\$500.00	65.0%	\$175.00	\$4,900.00	
13		SVC-KWIE-ENG-TSE36	Network Engineering Drawings (per Hour)	2.0	2.0	2.0					4.0	\$285.71	65.0%	\$100.00	\$1,000.00	
Path Design, Frequency Planning & Engineering Subtotal:				\$3,906.50	\$6,448.00	\$3,906.50	\$0.00	\$0.00	\$0.00	\$7,610.00	\$21,871.00				\$21,871.00	



Customer: City of Broken Arrow

Project: Microwave Ring Closure 1+1 MHSB - UBT

Quote #: SN.191203AA.01

Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies

Sales Person Scott Nelson

e-mail: SNelson@LightSpeedT.com

Tel: (972) 839-2641

Services: Microwave Installation & Test

Configuration: Two Hops of Wavence 9500 MPR with MSS-8, Antennas, Ice Shields, DC Power

Centerline #1 (feet):

Centerline #1 (feet):

Item	Task	Part Number	Description				Pierce	Coweta	Spares	Indistributor	Total	NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes
				Tiger Hill	Water Plant	Yonkers										
1		SVC-QHIE-ENG-FE1	Field Service Engineer (Per Man Hour)	4	8	4				12	28	\$514.29	65.0%	\$180.00	\$5,040.00	
2		SVC-QHIE-ENG-FE3	Air Fare (per man) (1 Engineer with equipment shipment)							1	1	\$11,428.57	65.0%	\$4,000.00	\$4,000.00	
<u>Antenna, Line & Ice Shield Installation</u>																
3	Site/Tower Preparation	SVC-QHIE-INST-INCOM1	Microwave Antenna / Tower Installation Services (Per Man Hour)	12	12	12					36	\$1,074.29	65.0%	\$376.00	\$13,536.00	
4	Antenna/Line Inst.	SVC-QHIE-INST-INCOM1	Microwave Antenna / Tower Installation Services (Per Man Hour)	16	48	22					86	\$1,074.29	65.0%	\$376.00	\$32,336.00	
5	Install Ice Shields	SVC-QHIE-INST-INCOM1	Microwave Antenna / Tower Installation Services (Per Man Hour)	6	9	9					24	\$1,074.29	65.0%	\$376.00	\$9,024.00	
6	De-install existing Dragonwave ODUs	SVC-QHIE-INST-INCOM1	Microwave Antenna / Tower Installation Services (Per Man Hour)	3	3						6	\$1,074.29	65.0%	\$376.00	\$2,256.00	
7	Site/Tower Cleanup	SVC-QHIE-INST-INCOM1	Microwave Antenna / Tower Installation Services (Per Man Hour)	6	9	6					21	\$1,074.29	65.0%	\$376.00	\$7,896.00	
8		SVC-QHIE-ENG-FE2	Field Living Expenses (per man per calendar day)							22	22	\$971.43	65.0%	\$340.00	\$7,480.00	
<u>9500 MPR Installation</u>																
9	Install MPT-HQAM ODU	SVC-QHIE-INST-INCOM1	Microwave Antenna / Tower Installation Services (Per Man Hour)	4	8	4					16	\$1,074.29	65.0%	\$376.00	\$6,016.00	
10	Install MSS-8	SVC-QHIE-INST-INCOM2	Radio Installation Services (Per Man Hour)	2	2	2					6	\$902.86	65.0%	\$316.00	\$1,896.00	
11	Test MPT-HQAM & MSS-8	SVC-QHIE-INST-INCOM3	Radio Commissioning and Test Services (Per Man Hour)	6	12	6					24	\$902.86	65.0%	\$316.00	\$7,584.00	
12	Install Power	SVC-QHIE-INST-INCOM4	Ancillary Equipment Installation and Test Services (Per Man Hour)	1	1	1					3	\$902.86	65.0%	\$316.00	\$948.00	
13	NFM-P Integration	SVC-QHIE-INST-INCOM7	Network Management Engineering (Per Man Hour)	1	1	1				8	11	\$525.71	65.0%	\$184.00	\$2,024.00	
14		SVC-QHIE-ENG-FE2	Field Living Expenses (per man per calendar day)							7	7	\$971.43	65.0%	\$340.00	\$2,380.00	
<u>Project Management</u>																
15		SVC-QHIE-INST-INCOM5	Deployment Project Management (Per Man Hour)	4	6	4				16	30	\$514.29	65.0%	\$180.00	\$5,400.00	
<u>Mob/ De-mob</u>																
16		SVC-QHIE-INST-INCOM9	Air Fare (per man)(1 Engineer with equipment shipment)							3	3	\$11,428.57	65.0%	\$4,000.00	\$12,000.00	
Microwave Installation, Test & Integration Subtotal:				\$22,140.00	\$40,908.00	\$24,396.00	\$0.00	\$0.00	\$0.00	\$32,372.00					\$119,816.00	



Customer: City of Broken Arrow
 Project: Microwave Ring Closure 1+1 MHSB - UBT
 Quote #: SN.191203AA.01
 Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
 Sales Pert Scott Nelson
 e-mail: SNelson@LightSpeedT.com
 Tel: (972) 839-2641

Services: Maintenance - Microwave

Detail: Remote Technical Support, Repair and Exchange, Software Subscription

Item	Mfg.	Part Number	Description	Tiger Hill	Water Plan	Yonkers	Pierce	Coweta	Spares	Undistributec	Total	NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes
Wavence 9500 MPR Microwave Packet Radio																
1	Nokia	301090767-9500	Technical Support Gold (7x24x365 annual rate per hop) - Year 1							2	2	\$628.57	65.0%	\$220.00	\$440.00	Year 1
2	Nokia	301090767-9500	Technical Support Gold (7x24x365 annual rate per hop) - Year 2							2	2	\$628.57	65.0%	\$220.00	\$440.00	Year 2
3	Nokia	301090767-9500	Technical Support Gold (7x24x365 annual rate per hop) - Year 3							2	2	\$628.57	65.0%	\$220.00	\$440.00	Year 3
4	Nokia	301090775-9500	Standard Repair 45 days (annual rate after warranty per hop) - Year 1							Warranty	0	\$2,871.43	65.0%	\$1,005.00	\$0.00	Year 1
5	Nokia	301090775-9500	Standard Repair 45 days (annual rate after warranty per hop) - Year 2							2	2	\$2,871.43	65.0%	\$1,005.00	\$2,010.00	Year 2
6	Nokia	301090775-9500	Standard Repair 45 days (annual rate after warranty per hop) - Year 3							2	2	\$2,871.43	65.0%	\$1,005.00	\$2,010.00	Year 3
7	Nokia	3EM24592AAAB	9500 MPR Software Subscription (Per Node) - Year 1							1	1	\$500.00	65.0%	\$175.00	\$175.00	Year 1
8	Nokia	3EM24592AAAB	9500 MPR Software Subscription (Per Node) - Year 2							1	1	\$500.00	65.0%	\$175.00	\$175.00	Year 2
9	Nokia	3EM24592AAAB	9500 MPR Software Subscription (Per Node) - Year 3							1	1	\$500.00	65.0%	\$175.00	\$175.00	Year 3
Maintenance Subtotal:				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,865.00	\$5,865.00			Maintenance Subtotal:	\$5,865.00	



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
Sales Person: Scott Nelson
e-mail: SNelson@LightSpeedT.com
Tel: (972) 839-2641

Equipment: 7705 Service Aggregation Router

Configuration: With redundant CSM and redundant 8-Port GE/FE cards

Item	Mfg.	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total	NASPO	Discount	NASPO	Ext. Price	Notes
												ValuePoint	%	ValuePoint		
7705 SAR-8 Service Aggregation Routers													MSRP	Unit Price	Price	
1	Nokia	3HE06791AA	SAR-8 SHELF V2				1	1			2	\$4,250.00	65.0%	\$1,487.50	\$2,975.00	
2	Nokia	3HE06792EA	Fan Module (SAR-8 Shelf V2) Ext Temp				1	1	1		3	\$1,870.00	65.0%	\$654.50	\$1,963.50	
3	Nokia	3HE02784KA	SAR RELEASE 8.0 BASIC OS LICENSE	1	1	1	1	1			5	\$1,445.00	65.0%	\$505.75	\$2,528.75	
4	Nokia	3HE02774AB	CONTROL SWITCH MODULE V2 (CSMV2)				2	2	1		5	\$5,950.00	65.0%	\$2,082.50	\$10,412.50	
5	Nokia	3HE02776AB	8 PORT GE/FE ETHERNET CARD V2	1	1	1	2	2	1		8	\$8,840.00	65.0%	\$3,094.00	\$24,752.00	
6	Nokia	3HE00027CA	SFP - GIGE SX - LC ROHS 6/6 DDM -40/85C	4	4	4	4	4	1		21	\$586.50	65.0%	\$205.28	\$4,310.78	
NFM-P License Points																
7	Nokia	3HE11801DA	NSP: NFM-P STANDARD LP	18	18	18	18	18			90	\$190.00	65.0%	\$66.50	\$5,985.00	
7705 SAR-8 Equipment Subtotal:				\$5,617.85	\$5,617.85	\$5,617.85	\$15,018.85	\$15,018.85	\$6,036.28	\$0.00	\$52,927.53					

Notes:

- For calculating maintenance costs, the reference price for a single complete node (Pierce), excluding NFM-P licenses, is:
\$15,018.85 Site total for Pierce
-\$1,197.00 Less NSP/NFM-P License Points (18 @ \$66.50each.
\$13,821.85 per node
\$69,109.25 for a complete 5-node system



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
Sales Person Scott Nelson
e-mail: SNelson@LightSpeedT.com
Tel: (972) 839-2641

Services: MPLS Engineering

Configuration: MPLS routers connected via microwave radio, 5-node ring with fast re-route
(See summary page for discounts for engineering concurrent with microwave)

Item	Task	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributec	Total	NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes
		<u>MPLS Engineering</u>														
1	Design Consultation	3HE06636AA	Professional Svcs - Remote (Includes Design, Consultation & IOT) (per day)							2.0	2.0	\$7,000.00	40.0%	\$4,200.00	\$8,400.00	
2	High- & Low- Level Design	3HE06636AA	Professional Svcs - Remote (Includes Design, Consultation & IOT) (per day)	0.5	0.5	0.5	0.5	0.5		3.0	5.5	\$7,000.00	40.0%	\$4,200.00	\$23,100.00	
MPLS Engineering Subtotal:				\$2,100.00	\$2,100.00	\$2,100.00	\$2,100.00	\$2,100.00	\$0.00	\$21,000.00	\$31,500.00				\$31,500.00	



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
Sales Person: Scott Nelson
e-mail: SNelson@LightSpeedT.com
Tel: (972) 839-2641

Services: 7705 SAR Installation and Test, Integration with NFM-P

Configuration: 5-node MPLS ring interconnected by microwave, non-concurrent Installation
(See summary page for discounts for installation concurrent with microwave)

(See summary page for discounts for installation concurrent with microwave)												NASPO		NASPO			
Item	Task	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total	ValuePoint MSRP	Discount %	ValuePoint Unit Price	Ext. Price	Notes	
<u>7705 SAR-8 Installation</u>																	
3	Install & Test 7705 SAR-8	301036786	Installation - OnSite (T&L not included)	4	4	4	4	4			20	\$305.00	40.0%	\$183.00	\$3,660.00	per man-hour	
4	7705 SAR NW Integration	3HE02941AA	Integration - Staging support	4	4	4	4	4		16	36	\$600.00	40.0%	\$360.00	\$12,960.00	per man-hour	
5	NFM-P Integration	3HE02941AA	Integration - Staging support	4	4	4	4	4		12	32	\$600.00	40.0%	\$360.00	\$11,520.00	per man-hour	
6		SVC-QHIE-ENG-FE2	Field Living Expenses (per man per calendar day)							11	11	\$971.43	65.0%	\$340.00	\$3,740.00		
<u>Mob/ De-mob</u>																	
7		SVC-QHIE-INST-INCOM9	Air Fare (per man)(1 Engineer with equipment shipment)							2	2	\$11,428.57	65.0%	\$4,000.00	\$8,000.00		
<u>Project Management</u>																	
8		SVC-QHIE-INST-INCOM5	Deployment Project Management (Per Man Hour)	2	2	2	2	2		8	18	\$514.29	65.0%	\$180.00	\$3,240.00		
MPLS Installation, Test & Integration Subtotal:				\$6,072.00	\$6,072.00	\$6,072.00	\$6,072.00	\$6,072.00	\$0.00	\$24,652.00	\$55,012.00				\$55,012.00		



Customer: City of Broken Arrow
 Project: Microwave Ring Closure 1+1 MHSB - UBT
 Quote #: SN.191203AA.01
 Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
 Sales Person Scott Nelson
 e-mail: SNelson@LightSpeedT.com
 Tel: (972) 839-2641

Services: Maintenance - MPLS and NFM-P

Detail: Remote Technical Support, Repair and Exchange, Software Subscription

Item	Mfg.	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total	NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes
7705 SAR-8 Service Aggregation Routers																
1	Nokia	301013231	7705 SAR - Remote Technical Support Gold - Year 1							1	1				\$3,500.00	Note 1
2	Nokia	301013231	7705 SAR - Remote Technical Support Gold - Year 2							1	1				\$3,500.00	Note 1
3	Nokia	301013231	7705 SAR - Remote Technical Support Gold - Year 3							1	1				\$3,500.00	Note 1
4	Nokia	301048468	7705 SAR - (RES-RFR) - Year 1							Warranty	0				Warranty	Note 1
5	Nokia	301048468	7705 SAR - (RES-RFR) - Year 2							1	1				\$3,750.00	Note 1
6	Nokia	301048468	7705 SAR - (RES-RFR) - Year 3							1	1				\$3,750.00	Note 1
7	Nokia	3HE05610AB	7705 SAR - Software Subscription Plan - Year 1							1	1				\$1,728.00	Note 2
8	Nokia	3HE05610AB	7705 SAR - Software Subscription Plan - Year 2							1	1				\$1,728.00	Note 2
9	Nokia	3HE05610AB	7705 SAR - Software Subscription Plan - Year 3							1	1				\$1,728.00	Note 2
NFM-P Network Function Manager, Packet																
1	Nokia	301013231	NSP/NFM-P - Remote Technical Support Gold - Year 1							1	1				\$3,500.00	Note 3
2	Nokia	301013231	NSP/NFM-P - Remote Technical Support Gold - Year 2							1	1				\$3,500.00	Note 3
3	Nokia	301013231	NSP/NFM-P - Remote Technical Support Gold - Year 3							1	1				\$3,500.00	Note 3
7	Nokia	3HE10161AA	NSP/NFM-P Software Release Subscription - Year 1							1	1				\$11,515.00	Note 4
8	Nokia	3HE10161AA	NSP/NFM-P Software Release Subscription - Year 2							1	1				\$11,515.00	Note 4
9	Nokia	3HE10161AA	NSP/NFM-P Software Release Subscription - Year 3							1	1				\$11,515.00	Note 4

Maintenance Subtotal: \$68,229.00

Notes:

- Per the IP Router Service tab of Nokia's NASPO contract # 05715, the annual price for Maintenance Services for the 7705 SAR is a percentage of the *total purchase price* for the 7705 SAR equipment (hardware, software and all associated licenses). Since some of the 7705 SAR hardware to be deployed at Tiger Hill, Water Plant and Yonkers was purchased earlier without a maintenance contract, the *total purchase price* for 7705 SAR equipment is derived using the price quoted for a full 7705 SAR node at Pierce as a reference.

a) Per Note 1 on the 7705 SAR equipment tab, the equivalent total purchase price for the 5-node 7705 SAR system is determined to be \$69,109.25.

b) 7x24 Remote Technical Support (RTS-Gold) and Standard Return for Repair service (RFR) are both calculated as 5% of the *total purchase price* for the 7705 SAR equipment. Furthermore, the minimum annual price for RTS-Gold is \$3,500.00 per network (\$5,833.00 @ 40% discount), and the minimum RES-RFR is \$3,750.00 per network (\$6,250.00 @ 40% discount).

c) The annual prices for RTS-Gold and RES-RFR are as follows. RES-RFR for the first year is covered under warranty.

+ RTS-Gold : 5% of \$69,109.25 = \$3,455. Minimum annual fee of \$3,500 applies.

+ RES-RFR : 5% of \$69,109.25 = \$3,455. Minimum annual fee of \$3,750 applies.

- Software Subscription Plan for 7705 SAR is calculated as 2.5% of the total purchase price for the equipment (hardware, software and all associated licenses).

+ SSP : 2.5% of \$69,109.25 = \$1,728

- 7x24 Remote Technical Support (RTS-Gold) for the NSP/NFM-P is calculated as 5% of the *total purchase price* for the NFM-P software, all associated licenses, and all equipment license points. Furthermore, the minimum annual price for RTS-Gold is \$3,500.00 for the base platform (\$5,833.00 @ 40% discount).

\$47,600.00 Qty 1, NSP 17: NFM-P Standard Base, P/N 3HE11799CA on Wagoner County purchase order # 001680



Customer: City of Broken Arrow
Project: Microwave Ring Closure 1+1 MHSB - UBT
Quote #: SN.191203AA.01
Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
Sales Person Scott Nelson
e-mail: SNelson@LightSpeedT.com
Tel: (972) 839-2641

Services: Maintenance - MPLS and NFM-P

Detail: Remote Technical Support, Repair and Exchange, Software Subscription

Item	Mfg.	Part Number	Description	Tiger Hill	Water Plant	Yonkers	Pierce	Coweta	Spares	Undistributed	Total	NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes
			\$2,793.00 Qty 42 @ \$66.50 each, NSP/NFM-P Standard License Points, P/N 3HE11801CA on Wagoner County purchase order # 001680													
			\$7,182.00 Qty 108 @ \$66.50 each, NSP/NFM-P Standard License Points, P/N 3HE11801CA for Wavence 9500 MPR and 7705 SAR in this Project													
			\$57,575.00 Total Purchase price of NFM-P and License Points for products being managed													
			x 5%													
			\$2,879.00 Calculated Annual Price for RTS-Gold for NSP/NFM-P, per year. Minimum annual price of \$3,500 applies.													

- 4) Per Note 1 in the IP Router Service tab of Nokia's NASPO contract # 05715, SRS pricing is an annual fee and is 20% of the NSP product purchase price including base SW and all licenses points required the BU products being managed. Purchase Prices are derived as follows:

\$47,600.00	Qty 1, NSP 17: NFM-P Standard Base, P/N 3HE11799CA on Wagoner County purchase order # 001680
\$2,793.00	Qty 42 @ \$66.50 each, NSP/NFM-P Standard License Points, P/N 3HE11801CA on Wagoner County purchase order # 001680
\$7,182.00	Qty 108 @ \$66.50 each, NSP/NFM-P Standard License Points, P/N 3HE11801CA for Wavence 9500 MPR and 7705 SAR in this Project
\$57,575.00	Total Purchase price of NFM-P and License Points for products being managed
x 20%	
\$11,515.00	Total Price for SRS for NSP/NFM-P, per year



Customer: City of Broken Arrow
 Project: Microwave Ring Closure 1+1 MHSB - UBT
 Quote #: SN.191203AA.01
 Ref: NASPO ValuePoint - 05715

Quoted by: LightSpeed Technologies
 Sales Person: Scott Nelson
 e-mail: SNelson@LightSpeedT.com
 Tel: (972) 839-2641

Training: Equipment Operations & Maintenance

Configuration: Courses provided online or at Nokia EDU, as noted

Item	Mfg.	Part Number	Description	Duration	Type	Level	Delivery	Location	Max # Students	Qty of Seats	NASPO ValuePoint MSRP	Discount %	NASPO ValuePoint Unit Price	Ext. Price	Notes
Wavence 9500 MPR Microwave Packet Radio															
1	Nokia	RN00571-V-19	Wavence 19 UBT based Functional and HW description RN00571-V-19	1 Day	THY	Standard	Instructor Led	Dallas	12		TBD	TBD	TBD	TBD	THY - Theoretical course
2	Nokia	RN00572-V-19	Wavence 19 UBT based Common functionality Web CT O&M RN00572-V-19	1 Day	PTB	Advanced	Instructor Led	Dallas	8		TBD	TBD	TBD	TBD	PTB - Practical and theoretical course with testbed
3	Nokia	RN00014-V-19	Wavence 19 Ethernet traffic O&M RN00014-V-19	2 Days	PTB	Advanced	Instructor Led	Dallas	8		TBD	TBD	TBD	TBD	PTB - Practical and theoretical course with testbed
7705 SAR Service Aggregation Router															
9	Nokia	3HE09335AA-TER36084W	TER36084W 7705 SAR Product Overview	3 Hours		Advanced	Web-based	Online	1		\$494.00	65.0%	\$321.00	\$172.90	
NSP / NFM-P Network Services Platform / Network Functions Manager, Packet															
14	Nokia	3HE09335AA-TOS00059W	TOS00059W NSP (Network Services Platform) Overview (Online Class)	1 Hour		Standard	Web-based	Online	1		\$165.00	65.0%	\$107.00	\$57.75	
15	Nokia	3HE09335AA-TOS00060W	TOS00060W NFM-P (Network Functions Manager – Packet) Fundamentals (Online Class)	6 Hours		Advanced	Web-based	Online	1		\$988.00	65.0%	\$642.00	\$345.80	
16	Nokia	3HE09335AA-TOS00060	TOS00060 NFM-P (Network Functions Manager - Packet) Fundamentals	2 Days		Standard	Instructor Led	Dallas	8		\$4,154.29	65.0%	\$1,454.00	\$1,454.00	
17	Nokia	3HE09335AA-TOS00061	TOS00061 NSP (Network Services Platform) Fault Management Application	1 Day		Advanced	Instructor Led	Dallas	8		\$2,077.14	65.0%	\$727.00	\$727.00	
18	Nokia	3HE09335AA-TOS00062	TOS00062 NSP (Network Services Platform) Service Supervision Application	1 Day		Advanced	Instructor Led	Dallas	8		\$2,077.14	65.0%	\$727.00	\$727.00	
19	Nokia	3HE09335AA-TOS00063	TOS00063 NFM-P (Network Functions Manager - Packet) Network Troubleshooting using Fault Analysis	4 Days		Advanced	Instructor Led	Dallas	8		\$8,309.00	65.0%	\$2,908.00	\$2,908.15	
20	Nokia	3HE09335AA-TOS41001	TOS41001 NFM-P (Network Functions Manager - Packet) IP/MPLS Network Provisioning – Fundamentals	3 Days		Standard	Instructor Led	Dallas	8		\$6,231.00	65.0%	\$2,181.00	\$2,180.85	
21	Nokia	3HE09335AA-TOS41002	TOS41002 NFM-P (Network Functions Manager - Packet) IP/MPLS Network Provisioning – Resiliency	2 Days		Advanced	Instructor Led	Dallas	8		\$4,154.29	65.0%	\$1,454.00	\$1,454.00	
22	Nokia	3HE09335AA-TOS41003	TOS41003 NFM-P (Network Functions Manager - Packet) IP/MPLS Network Provisioning - Multi-Area Scaling	3 Days		Advanced	Instructor Led	Dallas	8		\$6,231.00	65.0%	\$2,181.00	\$2,180.85	
23	Nokia	3HE09335AA-TOS42101	TOS42101 NFM-P (Network Functions Manager - Packet) Service Operations and Provisioning – Fundamentals	2 Days		Standard	Instructor Led	Dallas	8		\$4,154.29	65.0%	\$1,454.00	\$1,454.00	
24	Nokia	3HE09335AA-TOS42102	TOS42102 NFM-P (Network Functions Manager - Packet) Service Operations and Provisioning - Enhanced OAM	3 Days		Advanced	Instructor Led	Dallas	8		\$6,231.00	65.0%	\$2,181.00	\$2,180.85	
25	Nokia	3HE09335AA-TOS42103	TOS42103 NFM-P (Network Functions Manager - Packet) Rel 17 Services Operation and Provisioning - Service Interconnection	2 Days		Advanced	Instructor Led	Dallas	8		\$4,154.29	65.0%	\$1,454.00	\$1,454.00	