



Oregon State University

**REQUEST FOR PROPOSAL
No. 197957**

Optical/Ethernet Equipment RFP

ISSUE DATE: JUNE 3, 2019

RFP CLOSING (DUE) DATE: JULY 11, 2019, 10:00 A.M. PDT

MANDATORY PRE-PROPOSAL CONFERENCE: JUNE 13, 2019

NO LATE PROPOSALS WILL BE ACCEPTED

CONTRACT ADMINISTRATOR:

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IF YOU ARE DOWNLOADING THE RFP FROM THE WEBSITE, CONTINUE TO MONITOR THE WEBSITE FOR ADDENDA.

1.0 GENERAL

1.01 SCHEDULE OF EVENTS

The selection procedure described below will be used to evaluate the capabilities of interested companies to provide the goods and professional services to OSU for this project. All times below are given in Pacific Daylight Time ("PDT").

Selection Procedure and Timetable **with Interviews:**

- June 3, 2019 Issue RFP
- June 13, 2019 Mandatory Pre-Proposal Conference at 10:00 a.m. PDT
- June 18, 2019 Deadline for Email Submission of Questions at 4:00 p.m. PDT
- June 25, 2019 Final Answers to Proposer Questions posted
- July 11, 2019 Proposal due 10:00 a.m. PDT
- July 29, 2019 Notification of Finalists
- August 9, 2019 Selection Committee Interviews with Finalists, if needed
- August 16, 2019 Estimated Notice of Intent to Award
- September 6, 2019 Estimated Contract Execution

This Schedule of Events is subject to change. Any changes will be made through the issuance of Written Addenda.

1.02 PRE-PROPOSAL CONFERENCE

A mandatory, online Pre-Proposal web and audio conference will be held on June 13, 2019 at 10:00 a.m. PDT. Registration is required prior to this event. To register, and obtain further information about this event, go to: <https://oregonstate.webex.com/oregonstate/onstage/g.php?MTID=ee0893df098bd3208ca0a2762f33dc016>

1.03 ISSUING OFFICE

The Construction Contracts Administration ("CCA") unit of Oregon State University's ("OSU") Procurement Contracts and Materials Management ("PCMM") department is the issuing office and is the sole point of contact for this Request for Proposal. Address all concerns or questions regarding this Request for Proposal to the Administrative Contact identified below.

1.04 GENERAL DEFINITIONS

As used in this Request for Proposal, the terms set forth below are defined as follows:

- a. "Addenda" means an addition to, deletion from, a material change in, or general interest explanation of the Request for Proposal.
- b. "Attachments" means those documents which are attached to and incorporated as part of the Request for Proposal.
- c. "Proposal" means an offer, binding on the Proposer and submitted in response to a Request for Proposal.
- d. "Proposer" means an entity that submits a Proposal in response to a Request for Proposal.
- e. "Proposal Due Date and Time" means the date and time specified in the Request for Proposal as the deadline for submitting Proposals.
- f. "Request for Proposal" ("RFP") means a Solicitation Document to obtain Written, competitive Proposals to be used as a basis for making an acquisition or entering into a Contract when price will not necessarily be the predominant award criteria.
- g. "Responsible" means an entity that demonstrates their ability to perform satisfactorily under a Contract by meeting the applicable standards of responsibility outlined in OSU University policies and standards.
- h. "Responsive" means a Proposal that has substantially complied in all material respects with the criteria outlined in the Request for Proposal.

- i. "Written or Writing" means letters, characters, and symbols that are intended to represent or convey particular ideas or meanings and are made in electronic form or inscribed on paper by hand, print, type, or other method of impression.

1.05 TECHNICAL DEFINITIONS

As used in this Request for Proposal, the terms set forth below are defined as follows:

- a. "Ethernet Transport System" ("ETS") means the transponders needed to connect to an OLS and any additional equipment needed to present Ethernet services at client ports in a PoP.
- b. "ILA Site" means a Site at which only an optical Integrated Line Amplifier ("ILA") will be located.
- c. "IP" means Internet Protocol, the standard for transmission of packet-based communications over the Internet.
- d. "Open Line System" ("OLS") means the equipment needed to pass optical light across OSU fiber segments, including integrated line amplifiers ("ILAs") and Reconfigurable Optical Add Drop Multiplexers ("ROADMs"), or other Multiplexer/Demultiplexer ("MUX/DEMUX") equipment that combines or splits a common signal from or to discrete channels. Open refers to this line system supporting third-party transponders and being capable of accepting injection of alien optical wavelengths (i.e., from distinct and separately managed optical systems), as well as having an open software application programming interface ("API").
- e. "Optical PoP" means a Site at which OLS equipment will be located and interconnected with the ETS.
- f. "PoP" or "Point of Presence" means a Site, either an Optical PoP or a Satellite PoP, where equipment will be located to present client Ethernet ports.
- g. "Satellite PoP" means a PoP site which is connected to the network via an Ethernet circuit and without any use of OLS equipment at that site.
- h. "Site" means a location where optical, optronic, or electronic equipment will be located, including PoPs, Satellite PoPs, or ILA Sites.

2.0 INTRODUCTION AND BACKGROUND

2.01 INTRODUCTION

Oregon State University ("OSU") is seeking Responsive Responsible Proposers to submit Proposals for goods and related services to light OSU's dark fiber assets for the creation of a statewide Layer 2 Ethernet Transport Network ("L2ETN"). OSU seeks proposals for an Open Line System ("OLS"), and an Ethernet Transport System ("ETS") in addition to the related services needed to install those systems as well as for their ongoing support and maintenance. It is expected that this RFP will result in either of the following: 1.) a single award to one proposer for both the ETS and OLS; or 2.) two separate awards, each to separate vendors; one to provide an ETS and the other to provide an OLS. Proposers have the option of submitting a single proposal for an OLS and an ETS, or submitting a single proposal for either an OLS or an ETS.

2.02 BACKGROUND

OSU has acquired Indefeasible Rights to Use ("IRUs") for dark fiber segments across Oregon and adjacent states in support of the Oregon Fiber Partnership ("OFP"), a collaborative project of OSU, Oregon Health & Science University, Portland State University, the University of Oregon ("UO") and Oregon state government through the Office of the State Chief Information Officer. The OFP will create a facilities-based, statewide L2ETN that will serve organizations from Oregon's public service, healthcare, research, and education sectors. These organizations are formalizing OFP as a new Oregon-based, not-for-profit organization that will operate by the service name Link Oregon. Over time, the Link Oregon network will incorporate the existing Network for Research and Education in Oregon ("NERO") and the Oregon Gigapop ("OGIG") networks currently operated by UO.

OSU intends to create an L2ETN based on industry standards for point-to-point, point-to-multipoint, and multipoint Ethernet transport services to enable OFP to do the following:

- Build out statewide private WANs;

- Connect remote campuses, schools, clinics, and offices to the OFP partners’ main campuses;
- Connect campuses to the local or remote sites of federal government agencies;
- Support partners’ disaster recovery and business continuity plans;
- Deliver services that include commodity Internet transit; transport to, and direct peering with, commercial cloud and service providers;
- Provide connectivity to national and international research and education networks;
- Direct peering with similar research and education networks in neighboring states;
- Provision dedicated optical waves for selected members or applications.

OSU believes that the optical and Ethernet networking technologies required to create this L2ETN and deliver these services are rapidly evolving, but at different rates. Further, OSU believes the optical platform, “Open Line System”, OLS, it chooses will have a greater longevity than its Ethernet platform, “Ethernet Transport System”, ETS. As a result, OSU intends to implement the OLS and the ETS as separate parts of the L2ETN. Consequently, OSU is simultaneously seeking an ETS and an OLS in order to present Ethernet services at client ports in its planned Optical and Satellite PoPs.

Project Phases		
Ring	Project Phase	Anticipated Lighting Date
A	1	Fall 2019
B	1	Fall 2019
C	2	Summer 2020
D	2	Summer 2020
E	<i>Not Applicable</i>	<i>Fiber segment already lit by OSU</i>

Maps showing the OSU fiber assets as well as anticipated network rings, ILA and Point of Presence (“PoP”) Sites are included in Attachment A. On behalf of the OFP, OSU intends to light the network rings through a series of phases, As shown in the table above, two of the intended fiber rings (Rings A and B) will be lit immediately. The remaining fiber will be lit in a second phase of the project, currently projected to occur in mid-2020.

Through this RFP, OSU intends to immediately acquire the goods and services needed for Phase 1 (Rings A and B), and more generally, to choose the technology platform(s) that will be used for Phase 2 as well as for lighting fiber segments that may be acquired in the future.

Proposal and Award

OSU intends to pursue what it determines is a Best in Class combination of an OLS and ETS. As a result, OSU invites proposers to submit a proposal that includes one or both of the following:

- 1) Open Line System.
- 2) Ethernet Transport System.

Proposers may submit a single proposal for either an OLS or an ETS or for both systems. Only a single Proposal from each Proposer will be accepted. Proposals must include the services needed to install the proposed system(s), and include the services needed for their ongoing maintenance and support.

Proposals that include both an OLS and an ETS are to present those systems in the proposal as separate, independent, and complete systems and not as a proposal of a unified and integrated system that offers OLS and ETS capabilities. Proposers **may not** submit a proposal which requires the use of both the Proposer’s OLS and ETS, whether this requirement may be a result of the technical, licensing, or other features of their proposal. Proposers must submit separate cost proposals for each system through Attachment F, Bid Cost Form. Proposers may describe the impact on costs of selecting both the Proposer’s OLS and ETS as part of their response to Attachment D, Statement of Work, Part III.B.

OSU may choose either the OLS or ETS or both systems from a single proposal. Proposer of either the chosen OLS or ETS shall be required to co-operate with the vendor of the other system during its installation.

In recognition that a Proposer of an ETS may be able to extend the capabilities of their ETS or offer equipment in addition to its ETS in order to deliver Layer 3 IP Routing Services, Proposers that submit an ETS proposal may **optionally** also propose additional equipment or functionality needed for those services. Finally, as OSU is currently evaluating alternative approaches for operating the equipment that will constitute the OFP network, Proposers may also **optionally** propose the services needed to operate their proposed equipment. **Neither IP Routing Services nor Network Operations Services will be considered as part of the evaluation process.**

2.03 OREGON STATE UNIVERSITY

Founded in 1868, Oregon State University is a comprehensive, research-extensive, public university located in Corvallis. Oregon State is one of only two American universities to hold the Land Grant, Sea Grant, Space Grant and Sun Grant designations. Oregon State is also the only Oregon institution to have earned both Carnegie Foundation classifications for Highest Research Activity and Community Engagement, a recognition of the depth and quality of its graduate education and research programs.

Through its centers, institutes, Extension offices and Experiment Stations, Oregon State has a presence in all of Oregon's 36 counties, including its main campus in Corvallis, the Hatfield Marine Sciences Center in Newport and OSU-Cascades Campus in Bend. Oregon State offers undergraduate, master's and doctoral degrees through 11 academic colleges, the Honors College, Graduate School and online Ecampus, enrolling more than 31,000 students from every county in Oregon, every state in the country and more than 110 nations.

3.0 STATEMENT OF WORK

3.01 STATEMENT OF WORK

See Attachment D for the Statement of Work.

4.0 PROPOSER REQUIREMENTS

4.01 MINIMUM REQUIREMENTS

In order to qualify as a Responsive Proposer, the Proposer shall meet the following minimum requirements. Information submitted in response to Attachment C and Attachment D will be used as evidence that Proposer meets these requirements.

- a. Use of the proposed equipment, or the previous generation of the same manufacturer's equipment, by at least three Canadian or U.S., regional (multi-city) higher education or public sector optical networks of similar or greater size and complexity.
- b. Proposer is either the manufacturer of the proposed equipment or an authorized and certified reseller for its manufacturer.
- c. Proposer has an U.S.-based sales and field-support organization.
- d. Manufacturer of proposed equipment has been manufacturing commercially available optical DWDM or Ethernet-based switching or routing products for at least five years.
- e. If Proposer is a reseller, Proposer has been a reseller for the manufacturer of the proposed equipment for at least three years.
- f. At the time that the Proposal is received, the U.S. Government is not prohibiting either the purchase or use of the proposed equipment or software by federal agencies, their contractors, or their grantees.
- g. Shares of the manufacturer of the proposed equipment are listed and traded on a public stock exchange.
- h. With the exception of encryption and capacity upgrade licensing, the proposed system is fully licensed for all features without additional Right to Use ("RTU") fees. This includes, but is not limited to, Forward Error Correction ("FEC") and 3rd party MSA-compliant client optics support.

5.0 REQUIRED SUBMITTALS

5.01 QUANTITY OF PROPOSALS

Submit one (1) original hard copy version of your proposal, along **with one electronic version on a thumb drive. Submit the completed Bid Cost Form as an separate hard copy document and a separate digital file on the thumb drive** . Original should contain original signatures on any pages where a signature is required. Proposers may only submit a single proposal. The single proposal may be for the OLS or ETS or both. Proposers submitting more than one proposal will be found non-responsive and proposals received will be rejected as a result. Proposal should contain the submittals listed in this section and be received by the closing date and time listed in this document and submitted to Administrative Contact:

Attention: Ben Baggett
Construction Contracts Administration
Oregon State University
644 SW 13th Ave
Corvallis, OR 97333

Your proposal response must be contained in a document **not to exceed two-hundred (250) single-sided pages or one-hundred (125) pages double-sided**, including any forms, pictures, charts, graphs, tables and text the Proposer deems appropriate to be part of the Proposer's response. Bid Cost Forms, a Transmittal letter, table of contents, front and back covers, and blank section dividers as well as any accompanying technical documentation, financial statements, sales literature, or network diagrams, will not be counted in the page limit. Information should **be presented in the same order as the required submittals in section 5.03**.

The electronic proposal should be sized appropriately for transfer (under 1 GB). Your response must **include a Transmittal/Cover Letter signed by an officer of your firm with the authority to commit the firm including an email address for communication purposes**. The proposal should be submitted in a **soft-bound** (comb or spiral, spiral preferred – no three- ring binders) format with page size of **8 ½ x 11 inches** with no fold-outs. The basic text information of the response should be presented in standard business font size, and no less than one-half inch margins. All information provided should be included in both written and electronic submittals.

OSU may reject any proposal response not in compliance with all prescribed public solicitation procedures and requirements and upon a finding by OSU that it is in the public interest to do so, OSU may cancel this solicitation, or reject for good cause all proposals.

Note that OSU will not accept proposal responses or queries that require OSU to pay the cost of production or delivery.

OSU is an AA/EEO employer.

Telephone, facsimile, or electronically transmitted submittals will not be accepted. Proposals received after the closing date and time will not be considered.

5.02 PROPRIETARY INFORMATION

OSU will retain this RFP and one copy of each original Proposal received, together with copies of all documents pertaining to the award of a contract. These documents will become subject records under the Oregon Public Records Law. Only those items considered a "trade secret" under ORS 192.50 (2), may be exempt from disclosure. If a response contains any information that you consider to be a trade secret under ORS 192.501(2), you must mark each sheet of information as trade secret with the following statement: **"This data constitutes a trade secret under ORS 192.501(2), and must not be disclosed except in accordance with the Oregon Public Records Law, ORS Chapter 192."**

The Oregon Public Records Law exempts from disclosure only bona fide trade secrets, and the exemption from disclosure applies only "unless the public interest requires disclosure in the particular instance."

Therefore, non-disclosure of documents or any portion of a document submitted as part of a Proposal may depend upon official or judicial determination made pursuant to the Public Records Law.

In order to facilitate public inspection of the non-confidential portion of the Proposal, material designated as confidential must accompany the Proposal, but must be readily separable from it. Prices, makes, model or catalog numbers of items offered, scheduled delivery dates, and terms of payment will be publicly available regardless of any designation to the contrary. Any Proposal marked as a trade secret in its entirety will be considered non-responsive and will be rejected.

5.03 REQUIRED SUBMITTALS

It is the Proposer's sole responsibility to submit information in fulfillment of the requirements of this Request for Proposal. If submittals are not substantially compliant in all material respects with the criteria outline in the RFP, it will cause the Proposal to be deemed non-Responsive.

Proposers must submit the following information:

- Front cover
- Transmittal letter
- Attachment B: 'Standard OSU Terms and Conditions Acknowledgement', signed
- Attachment C: 'Corporate Information and References', fully completed and signed
- Attachment D: 'Statement of Work' including the following:
 - Part I, 'Required Project Terms and Conditions', signed
 - Part II, 'Network Design and Installation', completed
 - Part III, 'Proposal Cost', completed
 - Part IV, 'Product and Service Features', completed
- Attachment E: Proposer Qualifications Responsiveness Checklist, completed and signed
- Attachment F, Bid Cost Form(s) completed for an OLS System and for an ETS, as appropriate
- Back cover

Optionally, Proposers may also submit the following:

- Attachment D: 'Statement of Work', Part V, 'Optional Equipment and Services', if Proposer desires to propose either providing additional equipment or functionality needed for IP Routing Services or provide Network Operations Services. If submitted, this material should be inserted after Attachment D, Part IV.
- A sample contract including the terms and conditions generally offered by Proposer to similar organizations and for similar equipment and scope of service. Proposers doing so may address OSU's terms and conditions as found in Attachment B. This sample contract is optional and for informational purposes only and is not a requirement of this RFP. If submitted, insert the sample contract after Attachment D.

6.0 EVALUATION

6.01 EVALUATION

At any stage of evaluation, OSU will only choose an OLS and an ETS for which OSU determines there is evidence that the two systems are interoperable. OSU may award to a single Proposer of both an OLS and an ETS if both are located within their respective competitive range in order to obtain a more comprehensive and administratively more efficient solution.

The stages of evaluation are as follows:

Determination of Responsiveness:

OSU will first review all Proposals to determine Responsiveness. Proposals that do not comply with the instructions, that are materially incomplete, that do not meet the minimum requirements, or that are submitted by Proposers that do not meet minimum qualifications may be deemed non-Responsive. Written notice will be

sent to Proposers whose Proposal is deemed non-Responsive identifying the reason. A Proposer has the right to appeal the decision pursuant to OSU Standard 03-015.

a. **First Stage Evaluation:**

Those Proposals determined to be Responsive will be evaluated by the selection committee using the required submittals listed in Section 5. The selection committee will be comprised of personnel from the OFP institutions who will score and rank finalists and another group which will serve as advisors to the selection committee but will not score or rank finalists. Proposals will be scored based on the First Stage Evaluation Criteria listed below. Proposals for each type of system, ETS or OLS, will be ranked and scored separately.

Each criterion in the first stage of the evaluation process has been assigned a weight between ten (10) and thirty (30). Scoring members of the selection committee will rate each Proposal in each criterion between one (1) and five (5) (five being the highest), and multiply that number by the weight assigned to the criterion. The scoring members of the selection committee members will then total the weighted score from all of the criteria to obtain the total score. The result of this total score will be used to rank all Proposers. The three (3) to five (5) top-ranked OLS Proposers may become the competitive range for OLS, and similarly, the three (3) to five (5) top-ranked ETS Proposers may become the competitive range for ETS.

OSU reserves the right to ask follow-up questions of Proposers during first stage evaluations. The questions will be for the purpose of clarification of information already contained in submittals and not be an opportunity to submit additional documentation or change existing documentation.

OSU may award after the first stage evaluation to the highest ranked Proposer without moving on to the second stage evaluation if the committee determines the initial scores provide a substantial gap between Proposers for that type of system. If this option is selected, Written notice of intent to award the Contract to the highest ranked Proposer will be provided to all Responsive Proposers of the same type of system, or an award may be made directly without notice of intent in those instances of a single Responsive Proposer.

FIRST STAGE EVALUATION CRITERIA

The following factors will be considered and given the specified weights during the first stage of evaluation:

1. **Ability to Execute** (Weight = 20) as documented by Proposer's response to Attachment C: 'Corporate Information and References'.
2. **Workforce Diversity Plan** (Weight = 10) as documented by Proposer's response to items 1.K and 1.L of Attachment C: 'Corporate Information and References'.
3. **Quality of Goods and Services** (Weight = 30) as documented by References and Proposer's response to Attachment D: Statement of Work: Parts I, II.A. (Network Design), and IV, as well as completed Attachment F, Bid Cost Form(s).
4. **Cost of Goods and Services** (Weight = 20) as documented by Proposer's response to Attachment D: Statement of Work, Part III, 'Project Cost', and completed Attachment F, Bid Cost Form(s).
5. **Project Approach** (Weight = 20) as documented by Proposer's response to Attachment D: Statement of Work, Part II.B. 'Installation Services'.

b. **Second Stage Evaluation:**

OSU may choose to conduct a second stage evaluation consisting of one or more of the following: interviews, presentations, written discussions, site visits, demonstrations of goods or services, reference checks, or best and final offers. Information regarding the chosen evaluation methods will be provided to the Proposers in the competitive range for each type of system. Interviews, if chosen as an evaluation method, will be prepared based on RFP responses and include a 30 minute presentation period, immediately followed by a separate 30 minute Q& A session. Specific interview questions will be provided at the time of notification.

Final scoring of the interviews or other second stage evaluation methods will be **separate and not cumulative** from the first stage evaluation. The evaluation committee will discuss the strengths and weaknesses of the finalists based on the results of the second stage evaluation. The committee will then rank those firms. Final ranking will be based on how well each finalist can meet the project and University needs as demonstrated in the finalist's response to questions or other evaluative methods. The finalist that has the highest overall ranking will be deemed the highest ranked proposer.

The committee will consider the following criteria in the Second Stage Evaluation and give the criteria the specified weights during the second stage of evaluation:

1. Ability to Execute (Weight = 30)

OSU's determination of Proposer's capability and capacity to implement the proposed system(s) in what OSU determines is an assured and timely manner.

2. Open standards based design and interoperability of the system (Weight = 40)

OSU's determination of Proposer's commitment to developing, delivering, and supporting open network systems that operate effectively with third-party networking equipment, including, but not limited to, Proposer's participation in open networking organizations and the results of testing the compatibility of Proposers products with third party equipment. For OLS, compatibility test results will be needed from Proposer to demonstrate interoperability and performance of its line system with third-party transponders/terminals, and for ETS, compatibility test results will be needed from Proposer to demonstrate interoperability and performance of its system with third-party line systems.

3. Quality of Goods and Services (Weight = 15)

OSU's determination of the quality of proposed goods and services and the proposed network design, as well as of Proposer's three (3) to five (5) year product roadmap, and the ability to use those products to implement a network that meets OSU's requirements as articulated in Attachment D.

4. Cost of Goods and Services (Weight = 40) as documented by Proposer's best and final offer including revised response to Attachment D: Statement of Work, Part III, 'Project Cost', and completed Attachment F, Bid Cost Form(s).

OPTIONAL REFERENCE CHECKS (Weight = 20)

OSU reserves the right to check the references provided by the Proposer as required by this RFP at any stage of evaluation. If the evaluation committee determines the interviewed finalists are too close to score, OSU has no recent experience working with a finalist, or if the consolidated scoring indicates a tie, the evaluation committee will check the references provided by the Proposer as required by this RFP in Attachment C. Information obtained from references will be used in the evaluation committee's final scoring and will be based on the evaluation committee's understanding of how well each firm can meet the needs of OSU.

Written notice of intent to award the Contract to the highest ranked Proposer will be provided to all Responsive Proposers of the same type of system, whether OLS or ETS, or an award may be made

directly without notice of intent in those instances of a single Responsive Proposer.

If a second stage evaluation of all Proposers does not produce an award that is in OSU's best interest, OSU may return to the first stage evaluation to advance additional Proposers to an additional second stage evaluation.

c. **Additional Stages of Evaluation:**

If after completion of the second stage of evaluation, an award is not made, OSU may add another stage of evaluation using any of the methods outlined in the first and second stages of evaluation. Final scoring of any additional stages of evaluations will be separate and not cumulative of earlier stages of evaluation.

6.02 NEGOTIATIONS

OSU may commence serial negotiations with the highest ranked Proposer(s) or commence simultaneous negotiations with all Responsive Proposers within the competitive range. OSU may include, but is not limited, to the following to negotiate:

- a. The Summary of Work;
- b. The Contract price as it is affected by negotiating the Summary of Work; and
- c. Any other terms and conditions as determined by OSU.
- d. Final terms and conditions to be incorporated into the resultant contract.

6.03 INVESTIGATION OF REFERENCES

OSU reserves the right to investigate and to consider and score the references and the past performance of any Proposer with respect to such things as its performance or provision of similar goods or services, compliance with specifications and contractual obligations, and its lawful payment of suppliers, subcontractors, and workers. OSU may postpone the award or execution of the Contract after the announcement of the notice of intent to award in order to complete its investigation.

6.04 CONTRACT AWARD

Contract will be awarded to the Proposer(s) who, in OSU's opinion, meets the requirements and qualifications of the RFP and whose Proposal is in the best interest of OSU. If a successful Contract cannot be completed after award, OSU may conclude contract negotiations, rescind its award to that Proposer, and return to the most recent RFP evaluation stage to negotiate with another Proposer(s) for award.

7.0 INSTRUCTIONS TO PROPOSERS

7.01 APPLICABLE STATUTES AND RULES

This Request for Proposal is subject to the applicable provisions and requirements of the Oregon Revised Statutes, OSU Standards 03-010 and 03-015, and OSU Policies and Procedures.

7.02 COMMUNICATIONS DURING RFP PROCESS

In order to ensure a fair and competitive environment, direct communication between OSU employees other than the Administrative Contact or other PCMM representative and any party in a position to create an unfair advantage to Proposer or disadvantage to other Proposers with respect to the RFP process or the award of a Contract is strictly prohibited. This restricted period of communication begins on the issue date of the solicitation and for Proposer(s) not selected for award ends with the conclusion of the appeal period identified in OSU Standard 03-015 and for Proposers(s) selected for award ends with the contract execution. This restriction does not apply to communications to other OSU employees during a Pre-Proposal conference or other situation where the Administrative Contact has expressly authorized direct communications with other staff. A Proposer who intentionally violates this requirement of the RFP process or otherwise deliberately or unintentionally benefits from such a violation by another party may have its Proposal rejected due to failing to comply with all prescribed solicitation procedures. The rules governing rejection of individual Proposals and potential appeals of such rejections are at OSU Standard 03-015.

7.03 MANUFACTURER'S NAMES AND APPROVED EQUIVALENTS

Unless qualified by the provision "NO SUBSTITUTE," any manufacturers' names, trade name, brand names, information or catalogue numbers listed in a specification are for information and not intended to limit competition. Proposers may offer any brand for which they are an authorized representative, which meets or exceeds the specification for any item(s). If Proposals are based on equivalent products, indicate in the Proposal form the manufacturers' name and number. Proposers shall submit with their Proposal, sketches, and descriptive literature, and complete specifications. Reference to literature submitted with a previous Proposal will not satisfy this provision. Proposers shall also explain in detail the reason(s) why the proposed equivalent will meet the specifications and not be considered an exception thereto. Proposals that do not comply with these requirements are subject to rejection. Proposals lacking any written indication of intent to provide an alternate brand will be received and considered in complete compliance with the specification as listed in the RFP.

7.04 REQUESTS FOR CLARIFICATION OR CHANGE

Requests for clarification or change of the RFP must be in Writing and received by the Administrative Contact no later than the Deadline for Request for Clarification or Change as specified in the Schedule of Events. Such requests for clarification or change must include the reason for the Proposer's request. OSU will consider all timely requests and, if acceptable to OSU, amend the Request for Proposal by issuing an Addendum. Envelopes, e-mails or faxes containing requests must be clearly marked as a Request for Clarification or Change and include the RFP Number and Title.

7.05 ADDENDA

Only documents issued as Written Addenda by CCA serve to change the Request for Proposal in any way. No other direction received by the Proposer, written or verbal, serves to change the Request for Proposal. Addenda will be publicized on the OSU procurement website. Proposers are advised to consult the OSU procurement website prior to submitting a Proposal in order to ensure that all relevant Addenda have been incorporated into the Proposal. Proposers are not required to submit Addenda with their Proposal. However, Proposers are responsible for obtaining and incorporating any changes made by Addenda into their Proposal. Failure to do so may make the Proposal non-Responsive, which in turn may cause the Proposal to be rejected.

7.06 PREPARATION AND SIGNATURE

All Required Submittals must be signed by an authorized representative with authority to bind the Proposer. Signature certifies that the Proposer has read, fully understands, and agrees to be bound by the RFP and all Attachments and Addenda to the RFP.

7.07 SUBMISSION

Proposals must be submitted to the Administrative Contact listed in Section 5.01 no later than the Proposal Due Date and Time; it is the Proposer's responsibility to ensure that the Proposal is received prior to the Proposal Due Date and Time indicated in this RFP, regardless of the method used to submit the Proposal.

Proposals must be submitted in a sealed package or envelope dropped off in person or delivered to the submittal location listed on the RFP cover sheet. The package or envelope must be addressed to the Administrative Contact. It is highly recommended that the Proposer confirms receipt of the Proposal with the Administrative Contact prior to the Proposal Due Date and Time.

All Proposals, must contain Written signatures indicating intent to be bound by the offer. If the Proposer submits multiple versions of the Proposal via different methods and does not explicitly direct OSU as to which version to use, OSU will determine which version of the Proposal will be used for evaluation.

7.08 MODIFICATION

Prior to submittal, Proposers should initial modifications or erasures in ink by the person signing the Proposal. After submittal but prior to the Proposal Due Date and Time, Proposals may be modified by submitting a Written notice indicating the modifications and a statement that the modification amends and supersedes the prior Proposal. After the Proposal Due Date and Time, Proposers may not modify their Proposal.

7.09 WITHDRAWALS

A Proposer may withdraw their Proposal by submitting a Written notice to the Administrative Contact identified in this Request for Proposal prior to the Proposal Due Date and Time. The Written notice must be on the Proposer's letterhead and signed by an authorized representative of the Proposer. The Proposer, or authorized representative of the Proposer, may also withdraw their Proposal in person prior to the Proposal Due Date and Time, upon presentation of appropriate identification and evidence of authority to withdraw the Proposal satisfactory to OSU.

7.10 LATE SUBMITTALS

Proposals and Written notices of modification or withdrawal must be received no later than the Proposal Due Date and Time (in the case of electronic submissions, the time/date stamp of the email received at the CCA office must be no later than the Proposal Due Date and Time). OSU may not accept or consider late Proposals, modifications, or withdrawals except as permitted in OSU University standards and policies. Sole responsibility rests with the Proposer to ensure OSU's receipt of its Proposal prior to the Proposal Due Date and Time. OSU shall not be responsible for any delays or misdeliveries caused by common carriers or by transmission errors, malfunctions, or electronic delays. Any risks associated with physical delivery or electronic transmission of the Proposal are borne by the Proposer.

7.11 PROPOSAL OPENING

Proposals will be opened immediately following the Proposal Due Date and Time at the Submittal Location. Proposer may attend the Proposal opening. Only the names of the Proposers submitting Proposals will be announced. No other information regarding the content of the Proposals will be available.

7.12 PROPOSALS ARE OFFERS

The Proposal is the Proposer's offer to enter into a Contract pursuant to the terms and conditions specified in the Request for Proposal, its Attachments, and Addenda. The offer is binding on the Proposer for one hundred twenty days. OSU's award of the Contract constitutes acceptance of the offer and binds the Proposer. The Proposal must be a complete offer and fully Responsive to the Request for Proposal.

7.13 CONTINGENT PROPOSALS

Proposer shall not make its Proposal contingent upon OSU's acceptance of specifications or contract terms that conflict with or are in addition to those in the Request for Proposal, its Attachments, or Addenda.

7.14 RIGHT TO REJECT

OSU may reject, in whole or in part, any Proposal not in compliance with the Request for Proposal, Attachments, or Addenda, if upon OSU's Written finding that it is in the public interest to do so. OSU may reject all Proposals for good cause, if upon OSU's Written finding that it is in the public interest to do so. Notification of rejection of all Proposals, along with the good cause justification and finding of public interest, will be sent to all who submitted a Proposal.

7.15 AWARDS

OSU reserves the right to make award(s) by individual item, group of items, all or none, or any combination thereof. OSU reserves the right to delete any item from the award when deemed to be in the best interest of OSU.

7.16 LEGAL REVIEW

Prior to execution of any Contract resulting from this Request for Proposal, the Contract may be reviewed by a qualified attorney for OSU pursuant to the applicable Oregon State University Standards and Oregon Revised Statutes. Legal review may result in changes to the terms and conditions specified in the Request for Proposal, Attachments, and Addenda.

7.17 PROPOSAL RESULTS

A Written notice of intent to award will be issued to all Proposers. The Proposal file will be available for Proposer's review during the protest period at the PCMM Department. Proposers must make an appointment

with the Administrative Contact to view the Proposal file. After the protest period, the file will be available by making a Public Records Request to OSU's Public Records Officer.

7.18 PROPOSAL PREPARATION COST

OSU is not liable for costs incurred by the Proposer during the Request for Proposal process.

7.19 PROPOSAL CANCELLATION

If a Request for Proposal is cancelled prior to the Proposal Due Date and Time, all Proposals that may have already been received will be returned to the Proposers. If a Request for Proposal is cancelled after the Proposal Due Date and Time or all Proposals are rejected, the Proposals received will be retained and become part of OSU's permanent Proposal file.

7.20 APPEAL OF CONTRACTOR SELECTION, CONTRACT AWARD

Any Proposer who feels adversely affected or aggrieved may submit an appeal within seven (7) calendar days after OSU issues a notice of intent to award a Contract. The appeal must be clearly identified as an appeal, identify the type and nature of the appeal, and include the Request for Proposal number and title. The rules governing appeals are at OSU University standards and policies.

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List of Attachments

- Attachment A Network Maps and Fiber Segment Data
 - Map 1: Fiber Routes and Planned Points of Presence
 - Map 2: Planned Fiber Rings
 - Map 3: Logical Map of Rings A & B
 - Table 1: Network Sites
 - Table 2: Fiber Segment Data
 - Table 3: Estimated Client Port Requirements
- Attachment B Standard OSU Terms and Conditions Acknowledgement
- Attachment C Corporate Information and References
- Attachment D Statement of Work
- Attachment E Proposer Qualifications Responsiveness Checklist
- Attachment F Bid Cost Form

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**ATTACHMENT A
NETWORK MAPS AND FIBER SEGMENT DATA**

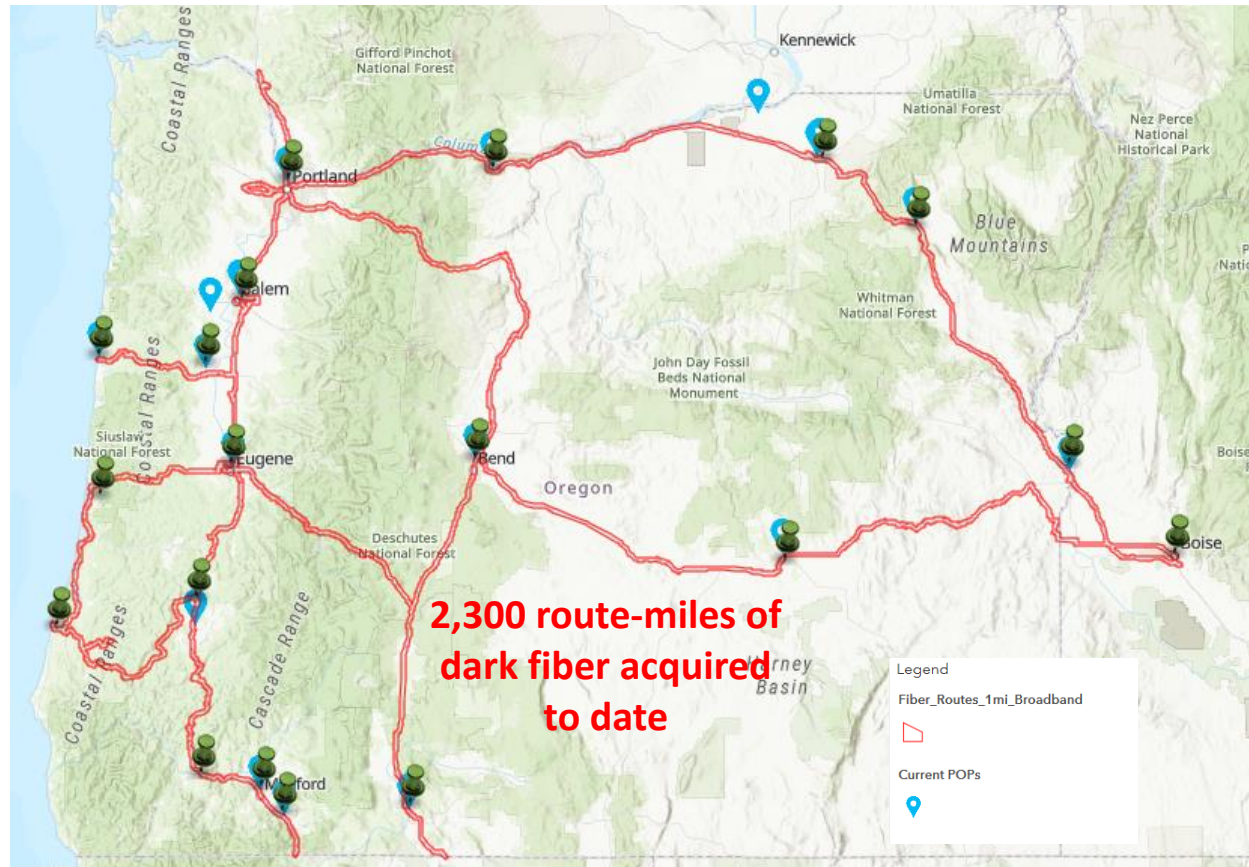
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MAP 1: FIBER ROUTES AND PLANNED POINTS OF PRESENCE (POPS)



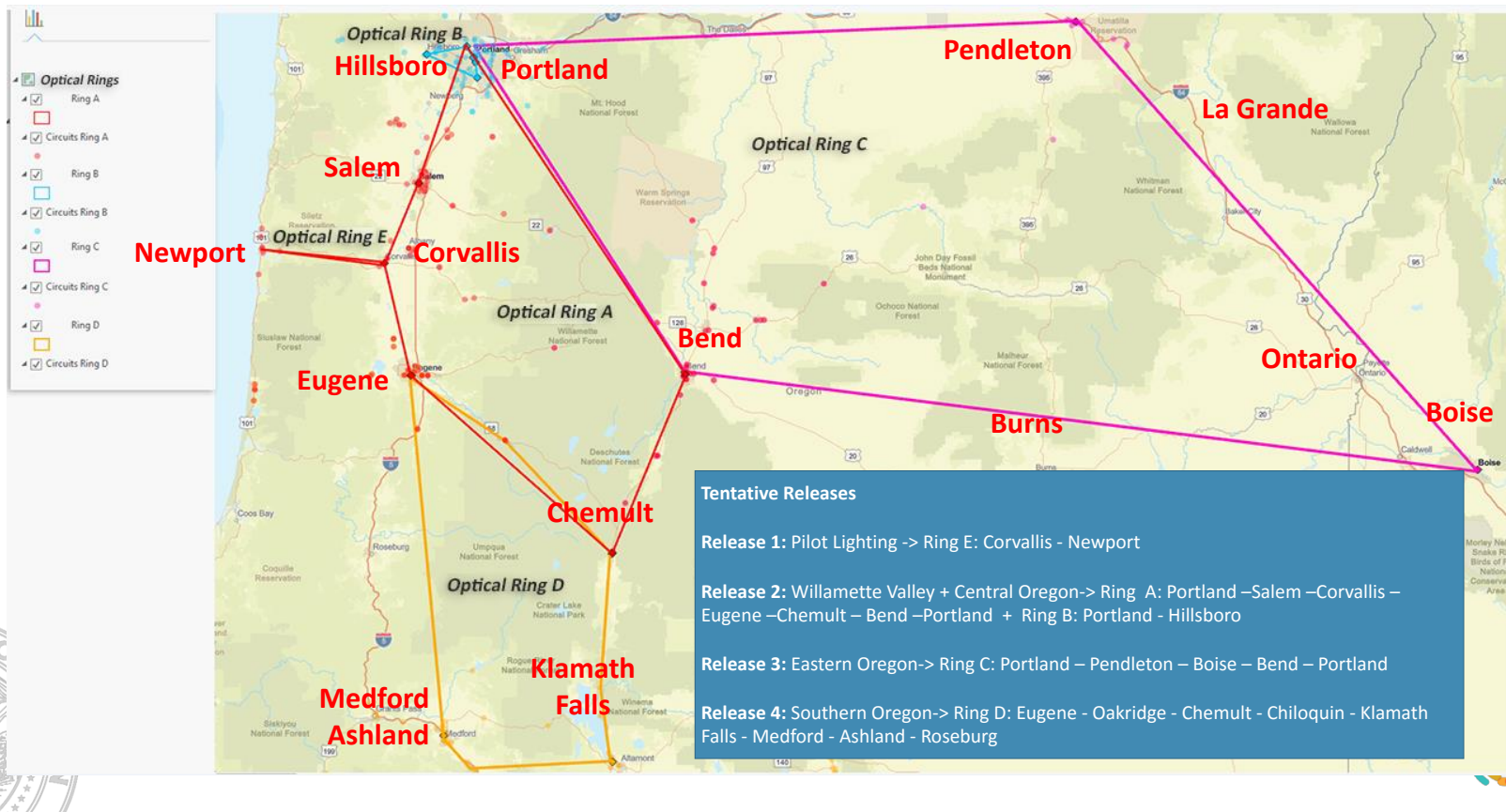
Planned Points of Presences

- Newport
- Portland/Hillsboro
- Salem
- Corvallis
- Eugene
- Roseburg
- Grants Pass
- Medford/Central Point
- Ashland
- The Dalles
- Bend
- Klamath Falls
- Pendleton
- La Grande
- Ontario
- Burns
- Boise, Idaho
- Florence - possible
- Coos Bay - possible



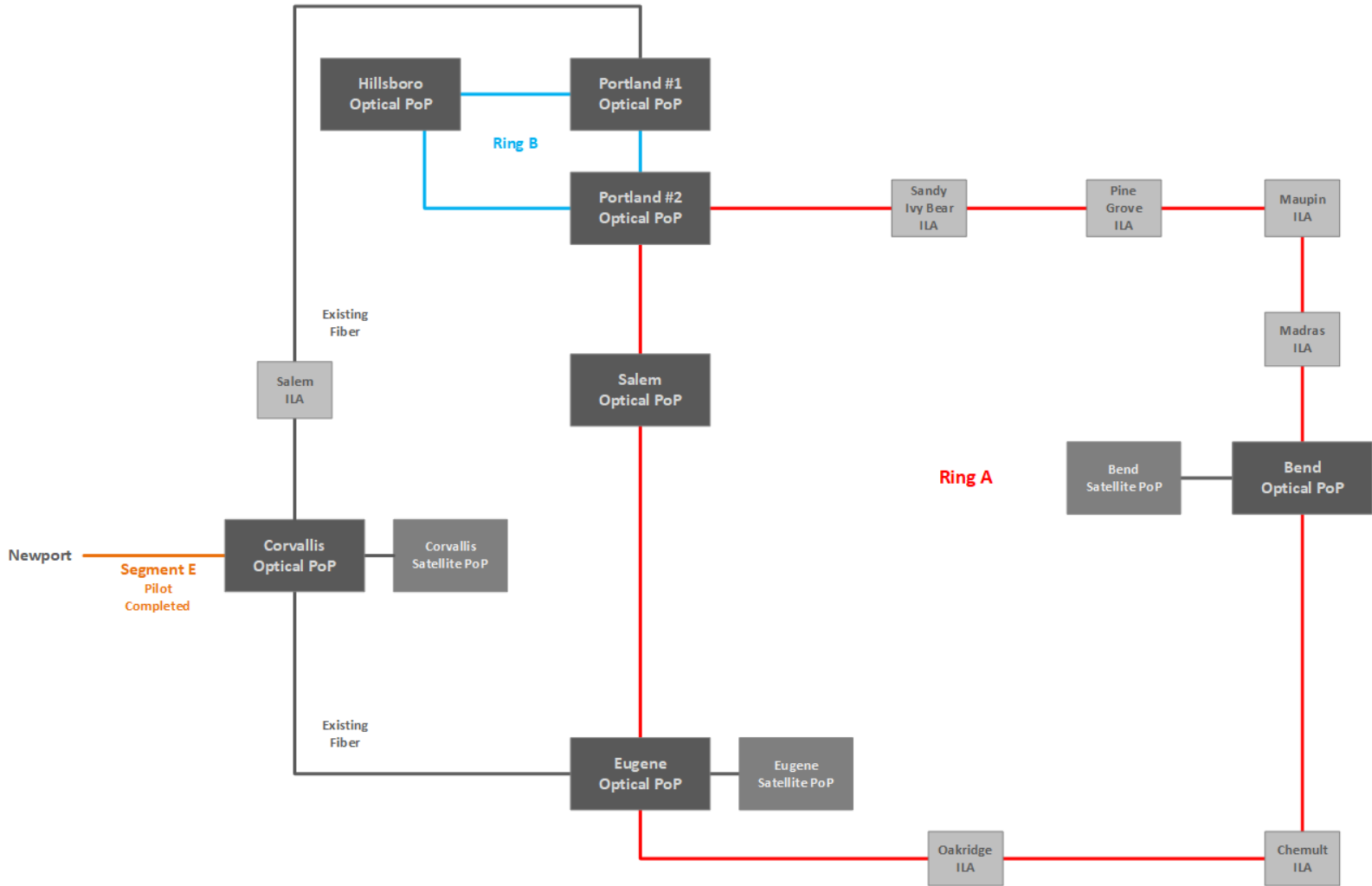
MAP 2: PLANNED FIBER RINGS

OPF Network Topology



MAP 3: LOGICAL MAP OF RINGS A AND B

OregonFIBER Partnership Logical PoP Connectivity



**TABLE 1:
NETWORK SITES**

Site Name	Site Type	Equipment Needed
Hillsboro Optical PoP	Optical PoP	OLS and ETS
Portland #1 Optical PoP	Optical PoP	OLS and ETS
Portland #2 Optical PoP	Optical PoP	OLS and ETS
Salem Optical PoP	Optical PoP	OLS and ETS
Salem ILA	ILA	OLS
Corvallis Optical PoP	Optical PoP	OLS and ETS
Corvallis Satellite PoP	Satellite PoP	ETS
Eugene Optical PoP	Optical PoP	OLS and ETS
Eugene Satellite PoP	Satellite PoP	ETS
Bend Optical PoP	Optical PoP	OLS and ETS
Bend Satellite PoP	Satellite PoP	ETS
Oakridge ILA	ILA	OLS
Chemult ILA	ILA	OLS
Madras ILA	ILA	OLS
Maupin ILA	ILA	OLS
Pine Grove ILA	ILA	OLS
Sandy ILA	ILA	OLS

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**TABLE 2:
FIBER SEGMENT DATA**

NOTES:

1. Where actual loss is not available (N/A), Proposers may assume loss will not exceed 0.4dB / km.
2. Fiber length does not include metro fiber required to connect PoPs to long-haul fiber. Proposers may assume those metro fiber runs to be short and have no impact on loss.
3. Bend, Eugene, Salem, and Portland sites listed below are the Optical Pop Sites listed in Table 1.

Segment	Site 1	Site 2	Fiber Type	Estimated Length (km)	Fiber Loss (dB)	dB/Distance Comments
1	Hillsboro	Portland #1	SMF 28	40.2	N/A	Fiber loss data pending, expected 0.25dB/km
2	Hillsboro	Portland #2	SMF 28	40.2	N/A	Fiber loss data pending, expected 0.25dB/km
3	Portland #1	Portland #2	SMF 28	10	N/A	Fiber loss data pending, expected 0.25dB/km
4	Portland #2	Salem	Level3 ULH	87	-17.6	Fiber loss data pending, expected 0.25dB/km
5	Portland #1	Salem ILA	TrueWave RS + N/A	90	-28	Actual loss (Mix of TrueWave RS and Unknown)
6	Salem ILA	Corvallis	TrueWave RS + N/A	84	-23	Actual loss (Mix of TrueWave RS and Unknown)
7	Salem	Eugene	Level3 ULH	109	-22.2	Fiber loss data pending
8	Corvallis	Eugene	SMF 28	83	-30	Actual loss
9	Eugene	Oakridge	Level3 ULH	91	-18.7	Fiber loss data pending
10	Oakridge	Chemult	Level3 ULH	94	-19.2	Fiber loss data pending
11	Chemult	Bend	N/A	111	N/A	Fiber loss data pending
12	Bend	Madras	SMF-LS	68.49	-15.55	Actual loss
13	Madras	Maupin	SMF-LS	67.49	-15.1	Actual loss
14	Maupin	Pine Grove	SMF-LS	66.65	-14.89	Actual loss
15	Pine Grove	Sandy	SMF-LS	72.08	-16	Actual loss
16	Sandy	Portland #2	SMF-LS	79.7	-19.07	Actual loss (Plus last mile estimate)

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**TABLE 3:
ESTIMATED CLIENT PORT REQUIREMENTS**

Points of Presence	100g Client Ports	10g Client Ports	1g Client Ports
Hillsboro Optical PoP	4	8	4
Portland Optical PoP	6	12	12
Portland Satellite PoP	4	8	12
Salem Optical PoP	1	8	24
Corvallis Optical PoP	2	18	20
Corvallis Satellite PoP	2	10	20
Eugene Optical PoP	8	16	20
Eugene Satellite PoP	2	16	20
Bend Optical PoP	1	12	20
Bend Satellite PoP	1	12	20

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ATTACHMENT B
STANDARD OSU TERMS AND CONDITIONS ACKNOWLEDGEMENT

SAMPLE TERMS AND CONDITIONS FOR GOODS

These Standard Terms and Conditions for Goods shall govern the purchase by OSU from the Contractor and shall replace and supersede any terms and conditions presented by Contractor or any sales quotations, order acknowledgements, or similar forms unless otherwise specified in the Solicitation Documents or on the face of the Purchase Order issued by OSU.

1. DEFINITIONS:

As used in this Contract, the terms set forth below are defined as follows:

- a. "Contract" means only the documents listed below, which, in the event of any conflicts among them, must be interpreted in the following order of precedence:
 - i. The Solicitation Document and its Attachments and Addenda, if any; and
 - ii. The Purchase Order Issued by OSU
- b. "Contractor" means a person or organization with whom OSU has contracted for the provision of goods pursuant to this Contract;
- c. "Contractor Intellectual Property" means any intellectual property owned by Contractor and developed independently from Contractor's performance of this Contract;
- d. "OAR" means the Oregon Administrative Rules;
- e. "ORS" means the Oregon Revised Statutes;
- f. "OSU" means the State of Oregon, acting by and through the State Board of Higher Education, on behalf of Oregon State University.
- g. "Solicitation Document" means the Request for Quotes, Invitation to Bid, Request for Proposals, or any other written document issued by OSU that outlines the required specifications necessary to submit a responsive quote, bid, proposal, or any other response;

2. ACCESS TO RECORDS:

Contractor shall maintain books, records, documents, and other evidence and accounting procedures and practices sufficient to reflect properly all costs of whatever nature claimed to have been incurred and anticipated to be incurred in the performance of this Contract. OSU, the Oregon State Board of Higher Education, Oregon Secretary of State, federal government, and their duly authorized representatives shall have access to the books, documents, papers, and records of Contractor which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts. Contractor shall maintain such books and records for OSU's review for at least six years beyond the Term of the Contract unless OSU authorizes a shorter period in writing. Contractor shall promptly remedy any discrepancies involving deviation from the terms of this Contract and shall promptly reimburse OSU for any commitments or expenditures found by OSU to have been in excess of amounts authorized by OSU.

3. AFFIRMATIVE ACTION:

Contractor certifies that Contractor has not discriminated against Minority, Women or Emerging Small Business Enterprises in obtaining any required subcontracts.

4. APPLICABLE LAW; JURISDICTION AND VENUE.

- a. This Contract is governed and shall be construed in accordance with the laws of the State of Oregon, without resort to any other jurisdiction's conflict of law rules or doctrines. Any claim, action, or suit between OSU and Contractor that arises out of or relates to performance of this Contract must be brought and conducted solely and exclusively within the Circuit Court for Benton County, for the State of Oregon.
- b. Notwithstanding the foregoing paragraph, if a claim must be brought in federal forum, it must be brought and adjudicated solely and exclusively in the United States District Court for the District of Oregon. This paragraph applies to a claim brought against OSU only to the extent Congress has validly abrogated OSU's sovereign immunity and is not consent by OSU to be sued in federal court. This paragraph is also not a waiver by OSU of any form of immunity, including without limitation sovereign immunity and immunity based on the Eleventh Amendment to the United States Constitution.
- c. Except as set forth in the paragraph above, the parties consent to in personam jurisdiction in the above courts and waive any objection to venue and any objection that the forum is inconvenient.

5. ASSIGNMENT/SUBCONTRACT/SUCCESSORS:

- a. Contractor shall not assign, sell, transfer, or subcontract rights, or delegate responsibilities under this Contract, in whole or in part, without the prior written approval of the OSU Procurement and Contract Services Department, and any attempt by Contractor to assign, sell, transfer, or subcontract rights or delegate responsibilities under this Contract, without first acquiring written approval of the OSU Procurement and Contract Services Department, is void. No such written approval from OSU relieves Contractor of any obligations of this Contract, however, and any assignee, new owner, transferee or subcontractor will be considered an agent of Contractor. Contractor shall remain liable to OSU under the Contract as if no such assignment, sale, transfer, or subcontract had occurred. The provisions of this Contract are binding upon and will inure to the benefit of the parties to the Contract and their respective permitted successors and assigns.
- b. Upon the completion of the organization of OFP and upon prior written notice to Contractor, OSU shall have the right to assign this Contract to OFP provided OFP assumes in a writing provided to Contractor all obligations of OSU arising under this Contract from and after the effective date of the assignment. Upon any such assignment and assumption, OSU shall be relieved from any obligation arising under this Agreement from and after the effective date of the assignment.

6. COMPLIANCE WITH APPLICABLE LAW:

Contractor shall comply with all federal, state and local laws, regulations, executive orders and ordinances applicable to the Contract. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following laws, regulations and executive orders to the extent they are applicable to the Contract: (i) Titles VI and VII of the Civil Rights Act of 1964, as amended; (ii) Sections 503 and 504 of the Rehabilitation Act of 1973, as amended; (iii) the Americans with Disabilities Act of 1990, as amended; (iv) Executive Order 11246, as amended; (v) the Health Insurance Portability and Accountability Act of 1996; (vi) the Age Discrimination in Employment Act of 1967, as amended, and the Age Discrimination Act of 1975, as amended; (vii) the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended; (viii) ORS Chapter 659, as amended; (ix) all regulations and administrative rules established pursuant to the foregoing laws; and (x) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules

and regulations. These laws, regulations and executive orders are incorporated by reference herein to the extent that they are applicable to the Contract and required by law to be so incorporated.

7. CONFIDENTIALITY:

This Contract is subject to the limitations and conditions of the Oregon Public Records Law, ORS 192.311-192.478. Notwithstanding anything else to the contrary in the Contract, OSU may disclose information to the extent it determines disclosure is required under Oregon Public Records Law.

8. DELIVERY:

All deliveries are F.O.B. destination with all transportation and handling charges paid by the Contractor, unless specified otherwise in the Solicitation Documents or on the face of the Purchase Order issued by OSU. Responsibility and liability for loss or damage remain with the Contractor until final inspection and acceptance, when responsibility passes to OSU except as to latent defects, fraud and Contractor's warranty obligations.

9. EXPORT CONTROL:

Contractor acknowledges that OSU has students and faculty who are foreign nationals who may work with the services, product or technology received from Contractor pursuant to this Contract. Contractor represents that it has informed OSU in writing, prior to executing this Contract if it is providing OSU any product or technology subject to the U.S. Export Administration Act of 1979, the Export Administration Regulations and the International Traffic in Arms Regulations, and if so, under what Commerce Control List number(s) or U.S. Munitions List number(s) it is controlled.

10. FORCE MAJEURE:

Neither OSU nor Contractor shall be held responsible for delay or default caused by fire, riot, act of nature, terrorist acts, or other acts of political sabotage, or war where such cause was beyond, respectively, OSU's or Contractor's reasonable control. Contractor shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon cessation of the cause, diligently pursue performance of its obligations under this Contract. However, if a default or delay due to a force majeure event continues for an unreasonable time, as determined by OSU, then OSU is entitled to terminate the Contract.

11. GOVERNMENT EMPLOYMENT STATUS:

Contractor certifies that it is not currently employed by the federal government and not an employee of OSU.

12. INDEMNITY, RESPONSIBILITY FOR DAMAGES:

- a. Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay which may be caused by, or result from, any willful or negligent act or omission of Contractor, its subcontractors, or employees under this Contract. Contractor shall save, defend, indemnify, and hold harmless OSU and its officers, directors, agents, members, and employees from all claims, suits, and actions resulting from or arising out of the willful or negligent acts or omissions of Contractor or its subcontractors, officers, agents, or employees acting under this Contract.
- b. Without limiting the generality of this section a., Contractor expressly agrees to defend, indemnify, and hold OSU and its officers, directors, agents, members, and employees harmless from any and all claims, suits, actions, losses, liabilities, costs, expenses and damages arising out of or related to any claims that the services or any other tangible or intangible goods delivered to OSU by Contractor that may be the subject of protection under any state or federal intellectual property law or doctrine, or OSU's use thereof infringes any patent, copyright, trade secret, trademark, trade dress, mask work, utility design, or other proprietary right of any third party; provided, that OSU provides Contractor with written notice of any infringement claim.
- c. Contractor shall have control of the defense and settlement of any claim that is subject to a. or b.; however, Contractor shall not settle any claim on behalf of OSU without the approval of OSU (which may not unreasonably withheld).

13. INSPECTIONS:

Goods furnished under this Contract are subject to inspection and test by OSU at times and places determined by OSU. If OSU finds goods furnished to be incomplete or not in compliance with the Contract, OSU, at its sole discretion, may either reject the goods, require Contractor to correct any defects without charge, or negotiate with Contractor to sell the goods to OSU at a reduced price, whichever OSU deems appropriate under the circumstances. If Contractor is unable or refuses to cure any defects within a time deemed reasonable by OSU, OSU may reject the goods and cancel the Contract in whole or in part. Nothing in this paragraph is to in any way affect or limit OSU's rights as a Buyer, including the rights and remedies relating to rejection under ORS 72.6020 and revocation of acceptance under ORS 72.6080.

14. INSURANCE:

Contractor shall secure at its own expense and keep in effect during the term of this Contract general liability or professional liability insurance as deemed applicable by OSU with limits of not less than four million dollars (\$4,000,000) aggregate, unless otherwise specified in writing by OSU. Insurance policies are to be issued by an insurance company authorized to do business in the State of Oregon with a rating of A or better, or as deemed acceptable by OSU. If requested, Contractor shall provide proof of insurance of said insurance policy. If any of the liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of this Contract for a duration commiserate with the statute of limitations for tort claims in Oregon.

15. INVOICES:

Contractor shall send invoices to OSU for goods and services accepted by OSU to OSU's Department at the address specified in the Purchase Order. Contractor shall include in each invoice:

- a. The Purchase Order number;
- b. The quantity of goods ordered, the quantity of goods delivered, the date goods were delivered, the price per unit;
- c. A detailed description of any services performed, the dates services were performed, the rate or rates for services performed, and the total cost of services; and
- d. The total amount due and the payment address.

OSU shall pay Contractor for services performed at the prices and rates specified herein. Contractor shall look solely to OSU for payment of all amounts OSU owes to Contractor. Payment of OSU contracts is normally made within 30-45 days following the date the the invoice is received. After 45 days, Contractor may assess overdue account charges up to a maximum of two-thirds of one percent (2/3 of 1%) per month or eight percent (8%) per annum on the outstanding balance (ORS 293.462).

16. NECESSARY COMPONENTS:

Unless specified otherwise, Contractor shall include all components, hardware and parts necessary for complete and proper assembly, installation and operation of goods.

17. NON-COMPLIANCE:

If any goods or component parts are recalled by a regulatory body or the manufacturer, or discovered by Contractor not to comply with applicable regulatory standards or the Specifications, Contractor shall immediately notify OSU of the recall or non-compliance, and shall provide copies of the recall notice or notice of non-compliance, as applicable, and all other supporting documentation for the recall or non-compliance determination. OSU may elect to (a) reject goods in whole or in part, or (b) revoke its acceptance of goods in whole or in part. If OSU rejects goods or revokes its acceptance of goods, Contractor shall remove the particular goods from OSU's possession at no cost to OSU and shall reimburse OSU for all payments made for those goods.

18. NOTICE:

Unless otherwise specified, any notice pursuant to this Contract shall be validly given if in writing and delivered to the other party via e-mail, fax, or by registered or certified mail, postage prepaid, to the respective addressees of Contractor and OSU.

19. OSU NAME AND TRADEMARK:

Contractor's shall not use names, marks or trademarks identifying OSU, or any department or office of OSU, or in any other way identify OSU without prior written approval from OSU's Office of University Advancement.

20. PARKING:

Contractors doing business on the OSU campus may be required to have a permit to park, if utilizing restricted street parking or parking lots. Contractor parking permits may be picked up from OSU's Office of Transit & Parking Services.

21. RECYCLABLE PRODUCTS:

Contractors will use recyclable products to the maximum extent economically feasible in the performance of the Contract.

22. RETIREMENT SYSTEM STATUS:

Contractor is not a contributing member of the Public Employees' Retirement System and will be responsible for any federal or state taxes applicable to payment under this Contract. Contractor will not, by virtue of this Contract, be eligible for federal Social Security, employment insurance, workers' compensation or the Public Employees' Retirement System, except as a self-employed individual.

23. SAFETY AND HEALTH REQUIREMENTS/HAZARD COMMUNICATION:

Goods supplied under this Contract shall comply with all federal Occupational Safety and Health Administration (OSHA) requirements and with all Oregon safety and health requirements, including those of the State of Oregon Workers' Compensation Division. Contractor shall notify OSU prior to using products containing hazardous chemicals to which OSU employees may be exposed. Products containing hazardous chemicals are those products defined by Oregon Administrative Rules, Chapter 437. Upon OSU's request, Contractor shall immediately provide Material Safety Data Sheets, as required by OAR 437-155-025, for the products subject to this provision.

24. SEVERABILITY:

The invalidity, illegality or enforceability of any provision of this Contract shall not affect the validity, legality or enforceability of any other provision of this Contract, which shall remain in full force and effect and shall be liberally construed in order to effectuate the purpose and intent of this Contract.

25. SEXUAL HARASSMENT:

The State Board of Higher Education has adopted policies applicable to Contractors that prohibit sexual harassment, and Contractor's company and employees are required to adhere to OSU's policy prohibiting sexual harassment in their interactions with members of the OSU community.

26. STANDARD COMPONENTS:

Unless specified, Contractor shall provide goods with all components and accessories that the manufacturer lists as "standard" for goods.

27. SURVIVAL:

The terms and conditions of this Contract that by their sense and context are intended to survive termination or expiration hereof shall so survive.

28. TAX COMPLIANCE CERTIFICATION:

Contractor certifies under penalty of perjury that Contractor is, to the best of the undersigned's knowledge, not in violation of any Oregon Tax Laws. For purposes of this certification, "Oregon Tax Laws" means a state tax imposed by ORS 320.005 to 320.150 and 403.200 to 403.250 and ORS chapters 118, 314, 316, 317, 318, 321 and 323 and the elderly rental assistance program under ORS 310.630 to 310.706 and local taxes administered by the Department of Revenue under ORS 305.620.

29. TERMINATION:

This Contract may be terminated at any time by mutual consent of both parties or by OSU upon thirty (30) days' notice in writing and delivered by certified mail or in person to the other party. In addition, OSU may terminate this Contract at any time by written notice to Contractor if (a) Federal or state statutes, regulations or guidelines are modified or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this Contract; (b) any license or certificate required by law or regulation to be held by the Contractor to provide the services required by this Contract is for any reason denied, revoked, or not renewed; or (c) OSU fails to receive sufficient legislative appropriations (or from applicable federal, state, or other sources) to permit OSU, in the exercise of its reasonable administrative discretion, to fulfill its obligations under this Contract, or if the OSU program for which this Contract was executed is abolished. This Contract may also be terminated by OSU for default (including breach of contract) if (a) Contractor fails to timely provide services or materials called for by this Contract; or (b) Contractor fails to perform any of the other provisions of this Contract, or so fails to pursue the work as to endanger performance of this Contract in accordance with its terms and conditions, and after receipt of written notice from OSU, fails to correct such failures within ten (10) days. The rights and remedies of OSU provided in the above clause related to defaults (including breach of contract) by Contractor shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

30. THIRD PARTY BENEFICIARY:

OSU and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly, or otherwise, to third parties.

31. WAIVER:

Failure of OSU to enforce any provision of this Contract will not constitute a waiver or relinquishment by OSU of the right to such performance in the future nor of the right to enforce any other provision of this Contract.

32. WARRANTIES:

Unless specified, Contractor shall deliver goods that are new, unused and produced from current production inventory. Contractor shall provide goods manufactured from only those components that the manufacturer offers in the manufacturer's current parts catalogue for goods and carry full manufacturer warranties. Contractor warrants all goods delivered to be free from defects in labor, material, and manufacture and to be in compliance with specifications in the Solicitation Document. All implied or expressed warranty provisions of the Uniform Commercial Code, at ORS Chapter 72, are incorporated into this Contract. All warranties run to OSU.

33. WORKERS' COMPENSATION:

The Contractor, its subcontractors, if any, and all employers providing work, labor or materials under this Contract are subject employers under the Oregon Workers' Compensation law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage that satisfies Oregon law for all their subject workers, unless such employees are exempt under ORS 656.126.

34. MERGER:

THIS CONTRACT CONSTITUTES THE ENTIRE CONTRACT BETWEEN THE PARTIES. THERE ARE NO UNDERSTANDINGS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. NO AMENDMENT, CONSENT, OR WAIVER OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY ALL PARTIES. ANY SUCH AMENDMENT, CONSENT, OR WAIVER IS EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN.

Please sign below attesting to Proposer's acknowledgement of the standard terms and conditions given above and return with submittals per Section 4.01.

Proposer Signature: _____

Date: _____

[Remainder of this page left intentionally blank]

ATTACHMENT C
CORPORATE INFORMATION AND REFERENCES

Proposer must provide the information requested below for review of Minimum Qualifications in Section 4.01. Proposer must also submit a completed reference form. Provide responses inline and following the order of requests for information or completion of forms in this Attachment.

1. CORPORATE INFORMATION

Provide information on the following items:

- A. Number of years that the company manufacturing the proposed equipment has been in business, and if Proposer is a reseller, the number of years the Proposer has been a certified reseller for the manufacturer. If Proposer is a reseller, Proposer must submit a certificate documenting that Proposer is an authorized reseller for any proposed equipment
- B. Number of years that the company manufacturing the proposed equipment has been manufacturing DWDM and/or Ethernet networking equipment.
- C. Description of the products and services of the company manufacturing the proposed equipment, and services of the Proposer, if Proposer is a reseller.
- D. Copies of the last two years of audited financial statements for the company manufacturing the proposed equipment, and for the Proposer, if Proposer is a reseller.
- E. Stock exchange on which shares of equipment manufacturer are publicly traded.
- F. Major locations and manufacturing facilities of the manufacturer, including location of sales and support staff for U.S.-based customers.
- G. Support or sales resources from company or partner companies available within in Oregon.
- H. Involvement of the equipment manufacturer, including membership and any other activities, within the Open ROADM MSA or the Telecom Infra Project.
- I. Contractual arrangements, if any, with U.S. national higher education non-profit organizations, Internet2 (<https://www.internet2.edu/>) and the Quilt (<https://www.thequilt.net/>), or any other higher education or public sector purchasing consortia and vehicles in which the Proposer participates.
- J. Executive Order 19873, <https://www.federalregister.gov/documents/2019/05/17/2019-10538/securing-the-information-and-communications-technology-and-services-supply-chain>, prohibits any acquisition, importation, transfer, installation, dealing in, or use of, any information and communications technology or service (transaction) from firms debarred under the Executive Order. Describe how your proposed solution will comply with this Executive Order. Provide examples and discuss how current measures being taken by your firm address this prohibition within your supply network. Details may include: impacts to sourcing, delivery, installation, warranty, maintenance, recall, modifications to contract terms, or other.
- K. A description and identification of Minority Business Enterprise (“MBE”), Women Business Enterprise (“WBE”), Emerging Small Business (“ESB”), or Disabled Service Veterans (“DSV”) certifications for your firm and a description of your nondiscrimination practices. Provide historical information on MBE, WBE, ESB, or DSV Joint Ventures, subcontracting or mentoring plan, and utilization history for projects completed by your firm within the past three years.

- L. A narrative description of your current workforce diversity program/plan, and the plan for obtaining subcontracting, consulting, and supplier diversity for this project. Include a description of the outreach program or plan, including a schedule of events and specific steps that will be taken to maximize broad based and inclusive participation and the plan to provide mentoring, technical or other business development services to subcontractors needing or requesting such services.

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REFERENCES FORM

Use this form to provide as references current contact information for three regional (multi-city) higher education, research, or public sector networks in the U.S. or Canada of a similar or greater size and complexity to this Project and that are using the equipment proposed or the immediately prior generation of equipment. Verify that the individuals identified had direct contact with the referenced project. Do not include references from any firms or individuals included in your team for this Project or any references of OSU personnel. Proposers submitting both an OLS and an ETS proposal may submit two reference forms if appropriate. Such Proposers should indicate that a reference is being provided for either an OLS or an ETS solution in the form's space for "Goods or Services Provided."

REFERENCE FORM

REFERENCE 1

COMPANY: _____ CONTACT NAME: _____
ADDRESS: _____ PHONE NUMBER: _____
CITY, STATE ZIP: _____ FAX NUMBER: _____
WEBSITE: _____ E-MAIL: _____
GOODS OR SERVICES PROVIDED: _____

REFERENCE 2

COMPANY: _____ CONTACT NAME: _____
ADDRESS: _____ PHONE NUMBER: _____
CITY, STATE ZIP: _____ FAX NUMBER: _____
WEBSITE: _____ E-MAIL: _____
GOODS OR SERVICES PROVIDED: _____

REFERENCE 3

COMPANY: _____ CONTACT NAME: _____
ADDRESS: _____ PHONE NUMBER: _____
CITY, STATE ZIP: _____ FAX NUMBER: _____
WEBSITE: _____ E-MAIL: _____
GOODS OR SERVICES PROVIDED: _____

**ATTACHMENT D
STATEMENT OF WORK**

Instructions

This Statement of Work is made up of the following five parts:

1. Required Project Terms and Conditions
2. Network Design and Installation
3. Proposal Cost
4. Product and Service Features
5. Optional Equipment and Services

Provide requested information and any completed forms inline and following the order and structure of this attachment.

PART I. REQUIRED PROJECT TERMS AND CONDITIONS

Proposer shall acknowledge its understanding that the following terms and conditions specific to this project shall be included in any final contract.

1. Proposer’s commitment to maintaining its pricing for three years after contract award
2. OSU’s choice of a three or five-year maintenance and support contract
3. A sparing plan that locates a minimum of 2 spares of each traffic or service affecting component at a location agreed upon by OSU
4. Proposer will maintain a U.S. based sales and support organization for five years.
5. A 7-yr lifetime/End of Life Guarantee for the Open Line System
6. A 5-yr lifetime/End of Life Guarantee for the Ethernet Transport System
7. Installation deliverables shall include contents as specified below in Attachment D, ‘Statement of Work’, II.B., Installation Services
8. Acceptance of all equipment and installation services will be subject to a detailed acceptance plan dependent on the final network design and included as part of the initial purchase contract package.
9. At OSU’s sole discretion and timing, all contracts, licenses, and title to equipment may be assigned to the Oregon Fiber Partnership (dba Link Oregon) non-profit organization.
10. With the exception of encryption and capacity upgrade licensing, the proposed system is fully licensed for all features without additional Right to Use (“RTU”) fees, including, but not limited to, Forward Error Correction (“FEC”) and 3rd party MSA-compliant client optics support.
11. If awards are made to separate Proposers of an OLS and an ETS, Proposers will be required to collaborate with each other during the final design and installation phases and in the event of any equipment or software interoperability issues throughout the term of maintenance support.

Please sign below attesting to Proposer’s acknowledgement and acceptance of the required terms and conditions given above and return with submittals per Section 5.03.

Proposer Signature: _____

Date: _____

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PART II. NETWORK DESIGN AND INSTALLATION

II.A. Network Design

Proposer shall design and propose an OLS or an ETS solution, or both, for the OFP network shown in Attachment A, Map 3, Logical Network Rings A and B.

Any OLS design shall be based on the fiber segment data as well as the information on ILA and PoP (Optical or Satellite) Sites listed in Attachment A. Any ETS design shall provide the number and type of client Ethernet ports needed at the PoP Sites as specified in Attachment A. Network designs shall be informed by OSU's high-level design goals and the required capabilities specified in Attachment D, Part IV below, and it shall also comply with the following general design constraints:

General Design Constraints

1. Solution shall be based on Proposer's currently announced hardware and software that is deployed and successfully in-service in other customers' networks at the date of the submission of Proposer's response.
2. An OLS solution shall not include any equipment with an announced end-of-sale, end-of-maintenance, end-of-manufacture, or end-of-life date within seven years of the Estimated Contract Execution Date.
3. An ETS solution shall not include any equipment with an announced end-of-sale, end-of-maintenance, end-of-manufacture, or end-of-life date within five years of the Estimated Contract Execution Date.
4. Solutions shall use -48V DC at ILA Sites and may assume 120/240V AC is available at other Sites.

OSU is still acquiring needed fiber segments and receiving loss data for the segments it has already acquired. Consequently loss data is not available for all segments at the time of the issue of this RFP. See Attachment A, Table 2, for currently available data, or when data is unavailable, for a maximum estimated loss per km, that Proposer should use for design of an OLS.

Actual loss data for all segments will be needed for a final design. It is expected that this data will be available prior to execution of a final contract. For these reasons, OSU reserves the right to modify the OLS design prior to execution of a final contract. In addition, OSU reserves the right to modify the number and type of client ports to be provided by the ETS prior to execution of a final contract.

Provide a design of either an OLS or an ETS or both that includes, but is not restricted, to:

1. Description of the optical and/or Ethernet services provided by the proposed OLS or ETS.
2. Details of the proposed solution at each Site in the network, including functional diagrams and shelf configuration and layouts at each Site.
3. The total amount of rack space (expressed in Rack Units ("RU"), where each RU is 1.75" in height) required at each Site, and the total expected and maximum loads required at each Site, based on -48V DC at ILA Sites and 120/240V AC at other Sites. Use the Site Space and Power Requirements Form below, to provide this information. Complete the form's table for OLS and for ETS space and power requirements as appropriate.

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SITE SPACE AND POWER REQUIREMENTS FORM

Instructions: Please enter the Proposer’s name in the space designated for each table below use the OLS or the ETS table, or both tables, as appropriate. Enter the amount of space (in Rack Units, each RU being 1.75” in height), and the estimated and maximum power requirements (in Watts) for each Site in which equipment will be placed in the proposed system.

Proposer should not modify the structure of either table.

OLS SPACE AND POWER REQUIREMENTS				
Proposer’s Name:				
	Site Name	Space Required (“RU”)	Expected Power Requirements (Watts)	Maximum Power Requirements (Watts)
	Hillsboro Optical PoP			
	Portland #1 Optical PoP			
	Portland #2 Optical PoP			
	Salem Optical PoP			
	Salem ILA			
	Corvallis Optical PoP			
	Eugene Optical PoP			
	Bend Optical PoP			
	Oakridge ILA			
	Chemult ILA			
	Madras ILA			
	Maupin ILA			
	Pine Grove ILA			
	Sandy ILA			

ETS SPACE AND POWER REQUIREMENTS				
Proposer’s Name:				
	Site Name	Space Required (“RU”)	Expected Power Requirements (Watts)	Maximum Power Requirements (Watts)
	Hillsboro Optical PoP			
	Portland #1 Optical PoP			
	Portland #2 Optical PoP			
	Salem Optical PoP			
	Corvallis Optical PoP			
	Corvallis Satellite PoP			
	Eugene Optical PoP			
	Eugene Satellite PoP			
	Bend Optical PoP			
	Bend Satellite PoP			

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II.B Installation Services

The professional services for installation of the proposed equipment should include, but are not limited to, the following: staging of equipment, racking equipment, wiring and power-up, cabling, labeling (equipment, cables), preliminary testing, cutover and turn-up.

Deliverables to be provided upon completion of the installation, commissioning and cutover of the proposed system, shall include:

1. Faceplate and cable diagrams, including all optical attenuators and values installed for an OLS
2. Photos (front and back) of each installed rack
3. All user documentation or paperwork shipped with equipment
4. Final Site inventories, including device type and model, serial numbers, and feature/licensing codes.
5. Wavelength maps, if installing an OLS
6. Management network diagrams, complete with IP address assignments
7. Complete copies of all node configurations
8. Copies of all software
9. Copies of all license keys and/or documentation
10. Letter of project completion and OSU acceptance.

As part of the installation process, the Proposer will be responsible for providing inventory control at each step of the shipping, receiving, staging, and implementation processes to ensure that all items ordered are shipped, all serial numbers and final locations are recorded, all equipment exchanges that occur as a result of Return Materials Authorization ("RMA") or fault correction are properly recorded, and all equipment swaps or relocations in the field are properly recorded.

Provide the following information about the services to be provided for installation of the proposed equipment, and explain differences in the approach to OLS or ETS installation as appropriate:

1. The general implementation approach proposed to light each fiber segment or install OLS or ETS equipment at each Site.
2. The general project management approach used for planning and implementation of the proposed system(s).
3. The personnel to perform the installation services, their qualifications and relationship with the Proposer (e.g., employee, contractor), and their responsibilities for the project, including sales, order management, inventory management, project management, installation and implementation.
4. Installer's experience with installation of equipment in CenturyLink or Level 3 facilities.
5. The engineering support and consultation to be offered prior to implementation in order to determine the final configuration (both hardware and software) for each Site and the final implementation plan (Method of Procedure) for each route, span, and Site, including final faceplate and cable diagrams, installation documentation, cutover procedures, etc.
6. The engineering support for installation and configuration of the network management system software, including installation and configuration of the software at all network nodes for communication with the network management system.
7. How the proposed system will be prepared for installation, including staging, repacking, shipping, and deployment to each Site. installation, including staging, repacking, shipping, quality assurance and deployment to each Site. Staging of the equipment in the proposed system provides for the unpacking of the equipment for each Site, initial slotting of cards, initial cabling, initial power up, initial health check and possible replacements of defective components, initial software installation or upgrade, the preliminary configuration, testing, and repacking for transport to each Site.
8. Where staging will take place, and if OFP space is needed for staging, describe the rack space, power, and other facilities needed.
9. Proposer's recommended approach to acceptance testing by OSU.

10. A projected schedule for equipment availability and installation after execution of a contract.

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PART III. PROPOSAL COST

Quoted costs shall be valid for 120 days following proposal submission deadline. Quoted prices of OLS and ETS system components and discount(s) shall remain valid for at least three years following the contract award to establish a price point for future orders and/or adjustments in quantities during that period.

III.A. Bid Cost Form Instructions

Attachment F, 'Bid Cost Form', is a separate document attached to the RFP as a Microsoft Excel file. Proposer shall submit completed Excel document(s) with its proposal. Proposer shall provide detailed pricing information according to the instructions in this Part and the instructions of the Bid Cost Form. Proposers submitting an OLS and an ETS proposal shall submit a separate Bid Cost Form for each system.

In the Bid Cost Form, the Proposer shall quote costs for each item bid, whether for an OLS or an ETS, including any goods or services. Proposer shall specify the manufacturer's list price in the Bid Cost Form(s). Proposer shall state the discount rate that will apply to individual items on the Form(s) in response to III.B.1 below.

The Proposer shall provide the costs for all spares on the tab of the Bid Cost Form named SPARES. OSU reserves the right to make adjustments in the numbers of components to maintain as spares in the final order from this RFP. Proposer should provide the cost of the maintenance and support plan on the MAINTENANCE tab of the Bid Cost Form. Installation costs should be provided on the PROFESSIONAL SERVICES tab.

If Proposer is submitting both an OLS and an ETS proposal, Proposer shall submit the installation cost for each system separately on the PROFESSIONAL SERVICES tab of the Bid Cost Form for the respective systems. Proposer of an OLS and an ETS may address the impact of purchasing both Proposer's OLS and ETS on costs, including but not limited to installation costs, by responding to III.B.4 below.

III.B. Additional Information Required

1. Specify the discount rate(s) that will apply to items listed on the Bid Cost Form(s) and that will also apply to future equipment purchases, including to future items which are not included in the itemized list of equipment on the Bid Cost Form(s).
2. With the exception of encryption and capacity upgrade licensing, the proposed system is fully licensed for all features without additional Right to Use ("RTU") fees. This includes, but is not limited to, Forward Error Correction ("FEC") and 3rd party MSA-compliant client optics support. Describe the basis and impact of any and all RTU fees of the proposed OLS and/or ETS.
3. Propose a schedule for payment of costs upon execution and after acceptance of the installed equipment.

If Proposer is submitting both an OLS and an ETS proposal, also address the following question:

4. Specify any impact on costs as documented in the Bid Cost Form(s), the discount rates applicable to current prices, future purchases, or any other financial impacts, of OSU purchasing both the Proposer's OLS and an ETS rather than only one of its two proposed systems.

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PART IV. PRODUCT AND SERVICE FEATURES

A series of equipment and service requirements are stated below: “OSU requires ...”, followed by requests for information that will be used to evaluate whether the features and capabilities of the proposed OLS or ETS meet those requirements.

Technical or operating manuals, product data sheets, and sales literature, may be submitted as accompanying material to a proposal, or links to those materials may be provided. **Proposals that include technical or operating manuals of product data sheets as part of inline responses to the requirements below will be considered not Responsive.** Such technical documentation or links to technical documentation submitted with the proposal may be used as an augment to a response to the requests for information below, but they should not be used as the sole answer to one of those requests.

Proposers shall provide one response to this Part whether Proposer is submitting only an OLS or an ETS proposal or is submitting a proposal for both an OLS and an ETS. The two sections of this Part that are specifically and uniquely relevant to only one part of the L2ETN, IV.A. ‘Open Line System’ and IV.B. ‘Ethernet Transport System’ are given first. Proposers should respond to either or both of IV.A and IV.B. as appropriate.

Following IV.A and IV.B, IV.C, ‘Common Goals and Requirements’, contains requirements and capabilities generally relevant to both the OLS and ETS, e.g., Ease of Secure and Efficient Network Administration. The requests in this IV.C seek information on the general features of a proposed solution, e.g., of its network management system. Proposers should address each of these items by providing the requested information. If Proposer’s answer to one of these general items varies between its OLS and ETS solution, Proposer should describe any differences in capability between the OLS and ETS as appropriate.

For a few requirements in IV.C. ‘Common Goals and Requirements’, there are requests for information on a general topic that are relevant to only an OLS or to an ETS. Such requests are preceded by the instructions “If proposing an OLS” or “If proposing an ETS” to guide Proposers on whether or not they need to supply the requested information.

IV.A. OPEN LINE SYSTEM (“OLS”) – (*Response required if proposing an OLS*)

OSU requires a capable technology platform that will allow it to do the following:

- Efficiently and flexibly use spectra across the full G.694.1 C-band by variable channel widths, channel spacing, and signal rates
- Have the flexibility to transition sites from amplification to add/drop
- Dynamically provision wavelengths at 100 Gbps or at higher bandwidths through higher-capacity super-channels along any combination of network paths
- Support multiple (i.e., greater than two) degree nodes
- Disaggregate OSU’s OLS from its ETS by permitting use of third-party OUT/ITU compliant transponders/terminals and carrying ITU-compliant alien wavelengths.

Describe how the proposed network design will enable OSU to meet these requirements by addressing each of the following:

1. The ROADM system and its components, how additional degrees are added, and the maximum number of degrees permitted.
2. Availability of support for Colorless, Directionless, Contentionless (“CDC”) ROADM technology. If CDC is not included in the initial offering, describe the upgrade path involved and currently committed schedule for availability of this functionality.
3. How the system supports super-channels above 100 Gbps (such as 400 Gbps and beyond), and any required hardware changes (including amplification/modularization) or software changes.
4. How alien wavelengths may be injected into the system, any limitations or restrictions, how native and alien wavelengths are managed, how optical power is monitored, balanced and guarded, and best

practices for system stability and expansion. Describe how the system supports exchanging wavelengths with a third-party line system at the ROADM level.

5. The standards a third-party transponder/terminal must comply with to be supported by the line system and how the line system manages transponders/terminals. Provide a list of compatible native and third-party transponders/terminals.
6. The maximum reach for an individual single mode fiber span with amplification. Provide this for 100 Gbps wavelengths, as well as super-channel wavelengths up to 400 Gbps.
7. The impact on the network when upgrading a node from an inline amplifier (“ILA”) to an add/drop location.
8. Options available for encrypted wavelengths, including standards supported and any limitations and/or performance impacts.
9. The specific amplification technology used and supported, and how amplification is introduced at the ROADM nodes.

IV.B ETHERNET TRANSPORT SYSTEM (“ETS”) (*Response required if proposing an ETS*)

1. Scalable, Future Ready, Ethernet Service Delivery Platform

OSU requires a scalable, future ready, Ethernet service delivery platform that will enable it to deliver:

- 1 Gbps, 10 Gbps, and 100 Gbps client interfaces today and 200+ Gbps in the future;
- Point to Point, Point to Multipoint, and Multipoint Ethernet services at any point of presence
- Private transport networks with enforceable bandwidth guarantees
- Integration of the ETS with a third-party Open Line System and transponders that permit flexible use of the entire optical C-band

Describe how the proposed network design will enable OSU to meet these requirements by addressing each of the following:

1. Support for short and long-reach optics for 1 Gbps, 10 Gbps, and 100 Gbps client ports, support for 25 Gbps and 40 Gbps client ports, and if not currently available, the roadmap for availability of 200 Gbps and 400 Gbps client ports.
2. Technology and standards used for the proposed overlay network: Metro Ethernet Forum or MEF (E-Line, E-LAN, and E-Tree); IP/MPLS Ethernet Transport (EVPN, EVPL, VPLS, and Pseudowires); or another approach.
3. Methods available for segmenting the proposed networks and guaranteeing the bandwidth of those segments, including how such guarantees are configured and enforced.
4. The underlay network technology used in the proposed network design (MPLS, G.8032, MPLS-TP, TRILL, IEEE 802.1aq Shortest Path Bridging, VXLAN, or VPLS) and how this choice would help build a redundant and resilient network.
5. Extent of the capability to create large buffer pools and to tune and specify the size of buffer allocations.
6. Minimum size of byte frames on client ports and the maximum transmission unit (MTU) supported.
7. Options for encryption, including the standards supported, their limitations, and the cost, if any, of enabling potential encryption features.
8. Proposer’s roadmap for future Ethernet product releases, clearly specifying which features are committed and which are planned.
9. Availability of G.709 signaling support for 25 Gbps, 50 Gbps, 200 Gbps, and 400Gbps.
10. Capability of the transport of G.709 OTU-2, OTU-3, and OTU-4 signals with protocol layer performance statistics.
11. How the proposed solution and its transponders would support use of a third-party optical line system, and current experience with the use of the proposed transponders with third-party optical line systems. Provide a list of compatible native and third-party optical line systems.

IV.C COMMON REQUIREMENTS AND GOALS

(A response to the following requests for information is required. See where instructions indicating when requests for information are only relevant to either an OLS or an ETS proposal.)

1. Space and Energy Efficient Network

OSU requires a network design that will allow it to make efficient use of space and power at its network Sites.

Describe how the proposed network design will enable OSU to meet these requirements by addressing each of the following:

- The physical format of the proposed system and how it can be adapted into 19-inch or 23-inch, 2 or 4 post rack environments
- Any environmental requirements of the proposed equipment
- How the proposed system(s) minimizes power and space requirements

2. Ease of Secure and Efficient Network Administration

OSU requires a solution that will make it easy and efficient for a limited staff to securely manage the fiber network by:

- Minimizing the need to dispatch staff to configure, manage, or troubleshoot equipment
- Allowing a small staff to efficiently manage the network through a network management system (“NMS”) that allows full-featured and simultaneous network management of all network elements
- Providing staff with the means of configuring and managing local network elements through an intuitive command line Interface or graphical craft interface
- Ensuring the network and individual network elements can be managed securely
- Providing staff with the opportunity to obtain the knowledge and skills needed to manage the network
- Allowing the adoption of third-party network management software

Describe how the network management system included with the proposed network design will enable OSU to meet these requirements by addressing each of the following:

- The ability of the NMS to remotely manage and configure all network elements.
- Support for performing central monitoring, operations, network telemetry, and management of all equipment.
- Ability to remotely manage software releases and upgrades and to schedule network element upgrades.
- Ability to backup NMS data and configuration and the process to restore from backup, including the ability to backup and restore configuration of individual network elements configuration.
- Any limitations on the number of network elements the NMS can support, and how the NMS can be scaled to support additional elements beyond those included in the proposed network design, and any licensing or other network components required to run the NMS.
- Support for management authentication and authorization via RADIUS.
- Support for multiple privilege user levels.
- Support for use of secure encrypted protocols to access the NMS system.
- Structure of the proposed NMS, including its underlying hardware and operating system requirements, support for running the NMS in a virtual environment and related requirements, and the hardware, software, and licenses required to operate the NMS in a high-availability configuration.
- Any limitations on the number of concurrent clients/users of the NMS and any other license restrictions or requirements.

- Requirements for user logins to the NMS from Microsoft Windows, Apple MacOS, and Linux operating systems. Any dependencies on user's computer required to use NMS GUI: Adobe Flash, Java Virtual Machine,
- Management and control of the proposed network through third-party software and management systems that leverage the proposed solutions' APIs, and support for APIs such as NETCONF and YANG models.
- Security architecture and standards met and customer notification and mitigation processes followed when a potential security vulnerability is detected.

Describe how the individual network elements included in the proposed network design will enable OSU to meet the requirements above by addressing each of the following:

1. The type of RJ-45 Ethernet network interfaces (100Base-T, 1000Base-T, ...) available on individual network elements to which technicians can attach a computer and perform configuration tasks.
2. The graphical or command line interfaces for local network elements and the features available through those interfaces for connecting to and locally configuring or managing a network element.
3. The ability to remotely access other network elements in the proposed system through the local interface of a network element
4. Support through the graphical interface for alarm detection and information, equipment configuration, inventory management, and software downloads.
5. Ability to use alarms in the proposed system to indicate fault conditions and their level of severity, and to automatically suppress consequential alarms when a related root-cause alarm is raised.
6. Ability to disable alarm reporting and for users to define the severity of each alarm.
7. How the system provides the ability to perform inventory detection of passive or non-powered devices, including auto-detection of hardware.
8. Northbound SNMP, TL-1, or other interfaces available for third-party NMS fault detection, control, and management
9. Telemetry data available via SNMP, the minimum polling interval, what data supports SNMP traps
10. Support for limiting SNMP access to IP network ranges, read-only access, and/or other methods for restricting data access
11. Any other methods, such as streaming telemetry, supporting for gathering telemetry data
12. Support for authorization and authentication via RADIUS and other protocols such as LDAP and TACACS.
13. Support for user privilege levels and how each level is differentiated, methods.
14. Support for remote logging to a syslog host
15. Support for secure encrypted protocols for communicating with the network element and means available to disable non-secure protocols such as telnet or FTP.
16. Any capabilities supported by the craft interface (CLI, Web, or EMS) of individual network elements not supported by the NMS
17. Any and all impacts to network services while network element software/firmware upgrades are performed. The firmware/software upgrade process of each component and impact on the overall system.

If proposing an Open Line System, please also address each of the following:

- How the Optical Supervisory Channel (OSC) is implemented and transmitted in the proposed system to allow management communications between linked network elements, including, but not limited to, the data rate(s) of the OSC and the wavelength(s) used for the OSC.
- The mechanism provided for communication between network elements not connected to the OSC.
- How the OSC can carry control, configuration, and request messages from the Network Management System to the nodes and deliver alarms, event, and response messages back to

the NMS. How it can allow remote management of several nodes from one single point and allow remote access via SSH, Web UI, or EMS for remote management of a network element.

- The ability to indirectly transmit management traffic between network elements by means of external LAN connections.

Describe how the training opportunities available from the Proposer will enable OSU to meet the requirements above by addressing each of the following:

1. Provide a list of classes most appropriate for detailed training of OSU engineers on the set-up, operation, and management of the specific equipment in the proposed system. Include pricing for recommended training on Optional tab of the Attachment F 'Bid Cost Form.'
2. Options on where and how the instruction is delivered, such as classes at a Proposer's training facility, online training, reading materials, or on-site. For on-site training describe the materials and facilities that must be provided by OSU.
3. Location(s) for classes at Proposer's training facilities and classes scheduled for the six months following the bid proposal deadline. Describe any hands-on labs or exercises provided as a part of the training.

3. Cost Effective Continuity of Operations

OSU requires a system and services that will do the following:

- Prevent occurrence of network outages and promote high-availability of the network
- Offer 24/7/365 support for administration and management of the network that will enable OSU's network engineers to perform all physical maintenance (hands & eyes) as a part of OSU's proposed maintenance program for the network
- Offer cost effective strategies for redundancy and prevention of service affecting outages
- Allow replacement of defective equipment in a timely manner that avoids lengthy network or service outages and is also fiscally prudent and cost effective
- Provide prompt assistance to resolve emergency situations when critical portions of the network are down that is continuous until the issue is solved or down-scaled using a work-around solution

Describe how the proposed network design and the design of the proposed equipment will help OSU to meet these requirements by addressing each of the following:

- How power redundancy is achieved, what happens in the event of power supply failure, supported AC and DC power standards (120/240VAC or 48v DC) and power cord plug types. If DC power is required, provide a list of approved DC rectifiers and integration services.
- If the proposed hardware solution is an aggregated chassis system, describe how redundancy is achieved within the chassis. If the solution is disaggregated, describe how the components work together to provide a redundant system. Describe how to manually failover components, and note any single points of failure.

If proposing an ETS, please also address each of the following:

- How the proposed hardware supports client redundancy and list any components that have a shared fate

Describe how the warranty and the proposed maintenance and spares programs will enable OSU to meet the requirements above by addressing each of the following:

- The warranty offered for the proposed equipment
- The extent of the warranty period for the proposed system (and any variances in the period by device or type of device in the system)
- The support services to be provided during the warranty period, including, but not limited to, access to technical assistance, availability of software updates to resolve reported problems and

through the normal course of software revisions, and repair or replacement of defective or failed hardware components.

- Availability of any upgrades in support services above that to be provided under the warranty period available and at what cost.
- How the maintenance program will provide technical support to assist OSU network engineers diagnose, identify, and replace defective, failing, or suspected faulty hardware with the same make and model of equipment (which can be any supported hardware component including, but not limited to, a network element or chassis, a plug-in card or module, a power supply, a cooling fan, appliance, outboard device such as a filter, or other component).
- How equipment is tracked by the Proposer for maintenance entitlement purposes and the entitlement database is updated.
- Sparing plan for all powered electronic components in the proposed system in which a minimum of two (2) spares of each component whose failure is potentially traffic or service affecting is housed at an OSU location to be used by OSU personnel for replacement of faulty or failing equipment.

Describe how the support services available from the proposer will help OSU to meet the requirements above by addressing each of the following:

- The technical support services available as a part of the proposal, including but not limited to: assistance from a call center and technical assistance center, call tracking, ticketing, reporting, escalation, and review meetings.
- Availability and features of the customer portal that will provide such functions as trouble ticketing, interaction with technical assistance, and product technical documentation such as manuals and data sheets.
- The process for escalating critical tickets through the technical assistance center.
- Any limits on the number of cases that can be submitted to the technical assistance center.
- Direction and assistance available by telephone and/or email from the technical assistance center as required.
- How information on new versions, bug fixes, updates, new features, end of support and end of life announcements, and other newsworthy information is provided and distributed.
- Provide information on the software release schedules for major and minor updates (e.g., quarterly, annually) for all hardware and network management software in the proposed system.
- Support for the Proposers current major software release, including any related minor releases, on the proposed platform, and at least one previous major release of the software

[Remainder of this page left intentionally blank]

PART V. OPTIONAL EQUIPMENT AND SERVICES

Below, Proposers may propose the following:

- 1) Additional equipment needed to extend the capabilities of the ETS solution to support IP routing; and
- 2) Services needed to operate the equipment proposed.

These optional services will not be considered as part of the process for evaluating and selecting an OLS or ETS.

V.A. IP ROUTING SERVICES

Proposers of an ETS may propose routing equipment for IP Routing Services as an extension of its ETS proposal. IP Routing Services may be provided by extending the capabilities of the devices included in the Ethernet Transport System, or by additional discrete devices.

Proposals should reflect OSU's intention to minimize the number of Sites on its network where it requires routers with full routing tables. OFP will facilitate redundant connections to these BGP-speaking routers for the OFP partners that seek full tables to make their own routing decisions. In addition, OSU will provide a default route to partners that want to take advantage of redundant paths to diverse Internet facing routers.

OSU expects different classes of routers to be used depending on function and network design. Possible router classes include the following:

1. TRANSIT - Transit Routers with full BGP Tables interfacing with external BGP peers
2. CAR - Customer Aggregation Router with or without BGP full table support
3. CORE – Core routers not providing direct client services. Typical in a “BGP-Free core” MPLS design

OSU invites proposals in line with this model of providing IP transit. Proposers wishing to propose equipment for IP Routing should provide the following information:

1. The proposed hardware solution and how it interfaces with the proposed Ethernet Transport System, including the ETS' network management system.
2. The maximum table size for TRANSIT class routers.
3. Versions of OSPF and/or ISIS supported and any limitations to routing feature sets.
4. The BGP routing capabilities, limitations, and table size of CAR and CORE routers.
5. Options for 1 Gbps Ethernet connectivity.
6. 10-Gbps, 100 Gbps, and 100+ Gbps Ethernet interfaces available. If 200 or 400 Gbps ports are not available today, provide the roadmap for support of these interfaces in future product offerings.
7. Any licensing and backplane limitations affecting enabling of interfaces.
8. BGP Flowspec and all other DDoS mitigations features and strategies offered by proposed routers.
9. MPLS routing capabilities of the router proposed.
10. Incremental cost of adding routing capabilities to the proposed ETS.

V.B. NETWORK OPERATIONS SERVICES

Proposer may also propose to operate their OLS and/or ETS solutions. In order for OSU to evaluate such network operations services, the Proposer shall provide the following:

1. List of network operations services available from the Proposer.
2. Service Level Agreements associated with the network operations services.
3. Annual base and any optional costs for operation of equipment proposed.
4. References from at least two regional (multi-city) higher education, research, or public sector networks in the U.S. or Canada of a similar or greater size and complexity to this Project and that are using similar network operations services to that proposed.

**ATTACHMENT E
PROPOSER QUALIFICATIONS RESPONSIVENESS CHECKLISTS**

In order to qualify as a Responsive Proposer, the Proposer needs to meet the minimum qualifications as listed in Section 4.01 and restated below. Please complete this table by marking 'Yes' or 'No' for each of the minimum requirements.

<u>MINIMUM REQUIREMENTS</u>	
<u>Requirement</u>	<u>Yes or No</u>
1. Use of the proposed equipment, or the previous generation of the same manufacturer's platform, by at least three Canadian or U.S., regional (multi-city) optical higher education or public sector optical networks of similar or greater size and complexity	
2. If the Proposer is a value added reseller, a certificate documenting that Proposer is an authorized reseller for any proposed equipment.	
3. Proposer has an U.S.-based sales and field-support organization.	
4. At least five years of shipping commercially available optical DWDM or Ethernet-based switching or routing products.	
5. If Proposer is a reseller, Proposer has been a reseller for the manufacturer of the proposed equipment for at least three years.	
6. At the time that the Proposal is received or thereafter, the U.S. Government is not prohibiting either the purchase or use of the proposed equipment and software by federal agencies, their contractors, or their grantees.	
7. Shares of the manufacturer of the proposed equipment are listed and traded on a public stock exchange	
8. With the exception of encryption and capacity upgrade licensing, the proposed system is fully licensed for all features without additional Right to Use ("RTU") fees. This includes, but is not limited to, Forward Error Correction ("FEC") and 3rd party MSA-compliant client optics support.	

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In order to qualify as a Responsive Proposer, the Proposer also needs to provide the required submittals as listed in Section 5.03 and restated below. Please complete this table by marking 'Yes' or 'No' for each required item.

REQUIRED SUBMITTALS		
#	Document	Yes or No
1	Front cover	
2	Transmittal letter	
3	Attachment B: 'Standard OSU Terms and Conditions Acknowledgement', signed	
4	Attachment C: 'Corporate Information and References', fully completed and signed	
5	Attachment D: 'Statement of Work', including the following:	
5.a	Part I, 'Required Project Terms and Conditions', signed	
5.b	Part II, 'Network Design and Installation', completed	
5.c	Part III, 'Proposal Cost', completed	
5.d	Part IV, 'Product and Service Features', completed	
6	Attachment E: Proposer Qualifications Responsiveness Checklist, completed and signed	
7	Attachment F, Bid Cost Form completed for an OLS System and for an ETS, as appropriate	
8	Back cover	

Please sign below attesting to the information provided above and return with submittals per Section 5.03.

Proposer Signature: _____

Date: _____