ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

CONTRACTOR AGREEMENT NO. N66617C

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ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

FIXED PRICE CONTRACT AGREEMENT NO. N66617C

Gen 4#3 Agreement

THIS FIXED PRICE AGREEMENT is made effective this ___ day of xxxxxx, 201x, by and between the Association of Universities for Research in Astronomy (hereinafter "AURA"), an Arizona non-profit corporation**,** and xxxxxxxxxx (hereinafter "Contractor"). AURA and Contractor are collectively referred to herein as the "Parties."

RECITALS:

A. Under Cooperative Agreement AST-0525280 and/or successive agreements between AURA and the United States of America represented by the National Science Foundation (NSF), Cooperative Support Agreement AST-06457970, CFDA #47.049, now in full force and effect, AURA, which operates the Gemini Observatories (Gemini), is engaged in the management, operation, and maintenance of observatories and related activities for research in the field of astronomy, and desires to enter into an agreement with Contractor to develop, design, and fabricate a highly efficient spectrograph that has broad scientific appeal and maintains the existing 8-m aperture advantage, in accordance with the technical specifications and requirements set forth in the Statement of Work attached to this Agreement.

B. AURA desires that Contractor make available its services, or those of its employees and subcontractors, as specified in this document, in support of AURA's efforts in those areas in which Contractor has special professional and/or technical qualifications; and

C. Contractor has special professional and/or technical qualifications and capabilities, and is willing and able to perform said work under the terms and conditions set forth in this Fixed Price Agreement.

NOW, THEREFORE, in consideration of the mutual covenants contained herein the parties do mutually agree as follows:

ARTICLE 1. SCOPE OF WORK

Contractor shall design, procure/manufacture, build, assemble, characterize, conduct pre-delivery acceptance tests, document, deliver, integrate, perform post-delivery acceptance tests, and commission a highly efficient spectrograph that has broad scientific appeal to be used with the Gemini telescopes and that maintains the existing 8-m aperture advantage, in accordance with the technical specifications and requirements set forth in the Statement of Work set forth in Attachment A, a copy of which is attached hereto and incorporated herein by reference as though fully set forth herein (hereinafter sometimes referred to as "the Work" and in accordance with the approved Project Management Plan and System Engineering Management Plan. Contractor will also provide all Gen 4#3 Contract Deliverables and conduct all tasks containing within the Statement of Work in Attachment A.

In the event of conflict among the provisions of any of the documents described herein, interpretation of this Agreement shall be governed in the following descending order of priority:

1) Articles of this Agreement;

2) AURA Gen4#3 Agreement Terms and Conditions contained herein;

3) Statement of Work set forth in Attachment A; and

4) Contractor's Proposal Document, with amendments, received on xxxx xx, 2016, set forth in Attachment B.

The Attachments immediately referred to above are attached to this Agreement and the provisions of such attachments are hereby incorporated by reference into this Agreement as though each attachment is fully set forth herein.

This project shall include multiple phases and stages, as more fully described in Attachment A.

(clause applicable only if stage one is competed). Stage 1 Conceptual Design At the conclusion of the Conceptual Design stage, only the selected Contractor will move on to subsequent phases and stages. If Contractor is not selected to move on to subsequent phases and stages, it will be paid the Conceptual Design contracted amount, with no further compensation from AURA, and this Contract will be terminated.

ARTICLE 2. PERIOD OF PERFORMANCE

The Contractor shall commence the Work described in Article 1 and Attachment A upon execution of the contract by both parties. Contractor will adhere as closely as possible to the multi-year Schedule. Work shall be completed by December 31, 2022.

Contractor acknowledges that the schedule is of vital importance to AURA and understands the foregoing time period ("period of performance") may be extended beyond the completion date only for unforeseen and unforeseeable situations outside Contractor's control or due to a change order or contract amendment initiated by AURA. Extensions to the Period of Performance will not be unreasonably withheld by AURA and will be specified by the mutual agreement of the parties in writing.

ARTICLE 3. CONTRACT AMOUNT

AURA shall pay the Contractor for performance of the work described in Article 1 above a fixed price amount not to exceed xx Million dollars ($xx,000,000), unless otherwise modified by change order as described in Article 5.

AURA's intention is to pay Contractor at the successful completion of each stage/phase. The table in Section 6 a reflects negotiated payments based on the Contractor's proposal. Payments listed in the table may be modified as long as the total fixed price is not exceeded.

ARTICLE 4. PERFORMANCE-BASED TELESCOPE TIME

To encourage Contractor to meet the agreed upon stage budgets and schedules, Contractor will be eligible to receive Telescope Time (TT) in addition to the negotiated

compensation for meeting the stage baseline budgets and schedules. Telescope Time allocation for meeting budgets is up to 5 nights; Telescope Time allocated for meeting schedule is up to 7 nights, as more fully described in Statement of Work (Attachment A).

The table below describes the criteria for the allocation of project performance-based telescope time. For each stage (column 1), the number of nights of TT listed in columns 3 and 5 are awarded for not exceeding the cumulative stage budget and cumulative schedule, respectively. If contractor fails to meet a cumulative stage budget or schedule, it will not earn the TT allocated for that stage. However, if contractor later "catches up" by meeting a subsequent cumulative stage budget or schedule, it will earn all TT allocated up to that point.

Stage	**Cumulative Stage Budget Baseline + RM**	**TT**	**Cumulative stage Schedule Baseline + Contingency**	**TT**
Conceptual Design	[$]	0	[date]	0
Preliminary Design	[$]	1	[date]	1
Critical Design	[$]	1	[date]	1
Assembly, Integration & Verification	[$]	1	[date]	2
Transportation & Telescope Integration	[$]	1	[date]	1
Commissioning & Science Verification	[$]	1	Completion Date	2
Total	**$**	**5**	**N/A**	**7**

AURA has the discretion to award any or all of the unearned Telescope Time to recognize for exceptional effort and/or in recognition of external circumstances beyond the contractor's control.

ARTICLE 5. CHANGES

a. The characteristics of the work, schedule, budget, and Statement of Work (Attachment A) may be changed only by written consent of AURA and Contractor by the execution of a change order or amendment. Verbal agreements to modify or add work are void.

b. AURA may issue a written Change Order to this Agreement in any one or more of the following: (i) tasks, subtasks, or timelines described in Attachment A, where such change will expedite performance or enhance the level of services to be provided; (ii) time or place of delivery; and or (iii) period of performance.

c. If an AURA issued change causes an increase or decrease in the cost of or time required for the performance of this Agreement, Contractor shall notify the AURA Contracts Officer in writing and request that an equitable adjustment be made in the price under this Agreement or delivery schedule, as applicable. If approved by the AURA Contracts Officer this Agreement shall be amended in writing accordingly. Any claim by

Contractor for adjustment must be asserted within thirty (30) days from completion of the change date of Contractor receives notification of or request for change, otherwise, Contractor shall be deemed to have waived such claim.

d. In no event shall AURA be responsible or obligated for any increase in the price under this Agreement or revision in the delivery schedule unless the change in the Agreement was specifically ordered or agreed to in writing by the AURA Contracts Officer. However, nothing in this clause shall excuse Contractor from proceeding with performance under the Agreement as changed by a mutually acceptable change order.

e. Contractor may apply to the Technical Representative and/or the AURA Contracts Officer for a contract amendment to equitably adjust the Contract Price, Schedule, or Requirements because one of the AURA Assumed Risks identified in Article 8(b) has occurred.

When requesting a contract adjustment, Contractor shall provide the Technical Representative with all documentation or information reasonably required to determine whether the conditions below have been met. AURA will prepare a contract amendment equitably adjusting the contract price, schedule, or requirements when all of the conditions listed below are met, as reasonably determined by the AURA Contracts Officer. AURA may choose, acting at its sole discretion, what combination of price, schedule, or requirements adjustments to use to compensate for the AURA Assumed Risk, as long as the net effect is to equitably offset the additional costs stemming from such risk.

- The event/condition meets the definition of an AURA Assumed Risk.

- The requested adjustment takes into account any avoidable costs incurred because of professional negligence or malfeasance by Contractor in identifying and mitigating the consequences of the AURA Assumed Risk

- Contractor notified the Technical Representative of the event/condition at the earliest possible time and accepted the Technical Representative's guidance, if any, on how to mitigate the consequences of the event, and also applied for the equitable adjustment at the earliest feasible opportunity.

ARTICLE 6. SUBMISSION OF INVOICES AND PAYMENT

a. Contractor shall be paid, upon invoice, upon completion of the milestones by Contractor, and acceptance of milestones by AURA completed within the invoiced period. Milestones are delineated below.

Stage	**Amount**
Conceptual Design Completed	
Preliminary Design Completed	
Critical Design Completed	
Assembly, Integration & Verification Completed	
Transportation & Telescope Integration Completed	
Commissioning & Science Verification Completed	

Invoices shall contain sufficient detail to enable AURA to clearly identify the milestones and costs for which payment is being requested. Invoices shall also provide documentation needed to verify completion of the milestone(s) as more fully described in Article 6.b below.

b. Only a complete invoice shall be processed for payment. To be considered complete, the invoice shall: (1) reference AURA Agreement No. N66617C; (2) state what time period the invoice covers; (3) set forth the milestone(s) and expenses incurred during the invoice period for which Contractor is claiming; (4) give a brief description of the actual tasks or steps accomplished during such time; and (5) include copies of all receipts for expenses to be reimbursed, if applicable. Only a complete invoice shall be processed for payment.

c. Each invoice presented for payment must bear the following certification:
"We acknowledge that the above statement is just and correct to the best of our knowledge and belief; that payment therefore has not been received; that it has been prepared from the books of account and records of the Contractor and unencumbered title to the material and work completed represented herein rests in the Contractor."

By _____
Signature Date
Name: _____
Title: _____

Invoices must be sent to the AURA Contracts Officer.

d. AURA shall pay such invoices within 30 days after the date the invoice is received or the milestone is actually completed, whichever is later.

ARTICLE 7. SURETY PLAN

Contractor shall complete the Work in accordance with the terms of the AURA approved "Surety Plan" attached hereto as Attachment C. The Surety Plan describes the methods the Contractor shall use to guarantee the successful performance and completion of this Agreement and the mitigation of risk of the Contractor's non-payment of subcontractor invoices.

ARTICLE 8. AURA ASSUMED RISKS

(a) AURA acknowledges that there are aspects of the Work that require never-before performed research & development and recognizes that Contractor may encounter physical, engineering, and/or manufacturing limitations that make meeting the Requirements unrealistic for the time and money set forth in this Contract. Contractor will first utilize its risk mitigation budget to address such issues. Thereafter, AURA will commit to amending the Contract Price or scope of the Work in certain circumstances as described below, upon execution of a change order and contract amendment.

(b) The following events or circumstances are defined as "AURA Assumed Risks":

(1) A physical, engineering, or manufacturing assumption that has been documented (in the Conceptual Design document, for example) or generally understood by the Instrument team, and that a design depended on, turns out to be invalid.

(2) A vendor re-quotes a part higher than an original quote and no lower price alternative can be identified.

(3) A part or component is accidentally damaged through no negligent or intentional act of the Contractor personnel (except to the extent that such loss or damage is covered by any property insurance or self-insurance program that Contractor may have).

(4) An environmental factor has characteristics other than those documented (e.g., telescope vibration).

(5) A previously undetected environmental factor impacts performance.

(c) In the event an AURA Assumed Risk that, in AURA's sole judgment, cannot be adequately addressed by some combination of price, schedule, or requirements adjustments within AURA's available funding and program requirements, then AURA may elect to terminate this Contract for convenience, in which case the TERMINATION FOR CONVENIENCE provisions of the Terms and Conditions will apply.

ARTICLE 9. CONTRACTOR ASSUMED RISKS

(a) All labor furnished under this Agreement shall be competent to perform the tasks undertaken, all materials and equipment provided shall be new and of appropriate quality, and the completed work shall comply in all material respects with the requirements of this Agreement.

(b) The following events or circumstances are defined as "Contractor Assumed Risks":

(1) Contractor fails to review the design for a component before it is procured and it has to be re-procured.

(2) Contractor designs or builds an interface that does not comply with published and distributed Interface Control Documentation.

(3) Contractor inadequately or incorrectly specifies a part leading to the manufacture of a part that cannot be used.

(4) Contractor orders the wrong parts or materials and those parts or materials are not returnable.

(5) Contractor personnel make preventable machining errors.

(6) A part or component is damaged due to the negligent or intentional acts of Contractor personnel.

(7) Contractor is negligent in estimating the person-power or material cost of a task.

(8) Contractor fails to start work timely on a long-lead task.

(9) Contractor fails to apply its resources (labor and facilities) in conformance with the then current project plan approved by the Technical Representative, which results in additional costs being incurred because of the resulting delays or inefficiencies.

(10) Contractor negligently or intentionally assigns tasks to persons or subcontractors who do not have the necessary skills and experience, which results in additional costs being incurred.

(11) Contractor fails to adequately monitor work performed by employees or subcontractors, which results in additional costs being incurred because of the resulting delays or inefficiencies.

Any realized risk that is not enumerated in Article 8 or 9 above will be assumed to be a Contractor Assumed Risk in the first instance. AURA will, however, entertain discussion with Contractor regarding the proper risk responsibility and will make a good faith effort to negotiate a final determination of which party will assume the risk.

ARTICLE 10. CONTRACTUAL AUTHORITY OF AURA

a. The AURA Contracts Officer is the only person authorized to approve changes in this Agreement and perform post-award functions in administering and enforcing this Agreement on behalf of AURA.

b. The AURA Contracts Officer assigned to this project is Karen Godzyk. Any questions relating to terms and conditions of this Agreement should be brought to her attention.

Karen Godzyk, AURA Contracts Officer
AURA Inc.
950 North Cherry Avenue
Tucson, AZ 85719

Telephone: 520.318.8357
Email: KGodzyk@aura-astronomy.org

c. The Technical Representative authorized to act on behalf of AURA for purposes of administering and providing direction to Contractor related to the detailed technical aspects of the Work is designated in Article 12 below. In no event, however, shall AURA be bound by any understanding, agreement, modification, change order, or other matter deviating from the provisions of this Agreement unless formalized by appropriate written contractual documents executed by the AURA Contracts Officer. Technical direction by the Technical Representative is only valid if: (1) it is issued in writing (hard copy or electronic document) and is consistent with the description of the work contained in the Statement of Work; (2) it does not constitute a new assignment of work nor change the express terms, conditions, or specifications of this Agreement; and (3) it does not constitute a basis for any increase in the contract price or extension of time for completion of the Work.

ARTICLE 11. CONTRACTUAL AUTHORITY OF CONTRACTOR

The Contractor Contracts Officer assigned to this project who is authorized to act on behalf of, sign for, and accept responsibilities on behalf of Contractor is identified below.

Name:
Title:
Address:
Phone
Email:

ARTICLE 12. AURA'S TECHNICAL REPRESENTATIVE

The Technical Representative for AURA/Gemini on this project is Stephen Goodsell. If any questions arise during the performance of this Work, they should be brought to his attention:

Stephen Goodsell
Gemini Observatory
670 N. A'ohoku Place
Hilo, HI
sgoodsell@gemini.edu

ARTICLE 13. CONTRACTOR'S PROGRAM MANAGER

Contractor has appointed xxxx xxxx as the Program Manager acceptable to AURA, He/she shall be: (1) the primary contact for Contractor in all matters related to this Agreement; and (2) responsible for the administration, coordination, and supervision of the Work by Contractor. Contractor shall not replace the Project Manager without the prior written consent of AURA.

The Program Manager is

Name:
Title:
Address:
Phone
Email:

ARTICLE 14. SPECIAL CONDITIONS

a. Changes to scope of work, performance schedule, or any other changes that materially affect the Agreement, or changes that would alter the Agreement price are not valid unless signed in writing by AURA's Contracts Officer. No payment for extras, overruns, or other changes shall be made unless the Contracts Officer authorizes such extras in writing.

b. The following must be submitted **prior to** the commencement of work.
   - Liability and workers' compensation insurance certificate/Statement of Self-Insurance
   - Surety Plan

c. To the extent that work is performed within the United States, Contractor must comply with Safety Regulations as promulgated by the Occupational Safety and Health Act of 1970, as amended.

ARTICLE 15. TIME IS OF THE ESSENCE

Time is of the essence with respect to all provisions of this Contract that specify a time period for performance. Contractor must notify the AURA Contracts Officer assigned to this Agreement within five (5) days after determining a contract date cannot be met.

ARTICLE 16. SEVERABILITY

The invalidity in whole or in part of any provision of this Agreement shall not affect the validity of other provisions. AURA's failure to enforce a right hereunder promptly shall not be deemed a waiver of such right, and no waiver of right under a provision shall constitute a waiver of any other right under such provision or any other provision.

ARTICLE 17. ENTIRE AGREEMENT

This Agreement, together with any addenda and amendments relating hereto, constitutes the entire agreement of the Parties, and there are no other representations, promises, agreements, conditions, or understandings, either oral or written, between the Parties other than as set forth herein. This agreement replaces all prior understandings, whether written or verbal. Any amendments, alterations, or modifications to this agreement must be in writing and signed by the Parties to this agreement to be effective.

A course of performance by the parties which is inconsistent with the terms of this agreement shall not constitute a modification or waiver of those terms.

ARTICLE 18. AUTHORITY

The persons executing this Agreement represent and warrant that they have the full power and authority to enter into this Agreement on behalf of the entities they are signing on behalf of.

ARTICLE 19. INTEGRATION

This Agreement, together with any addenda and amendments relating hereto, sets forth the entire understanding between the parties and supersedes all prior or contemporaneous agreements, representations, and understandings between the parties with respect to the subject matter of this Agreement. This Agreement may only be amended in a writing signed by both parties hereto.

ARTICLE 20. APPLICABLE LAW

a. This Agreement shall be governed, interpreted, and construed in accordance with the laws of the State of Arizona without regard to its conflict of law rules. Venue for any judicial action shall be Tucson, AZ.

b. The work performed by the Contractor must comply with US federal law and any other laws and/or ordinances that may be applicable to the work to be performed.

ARTICLE 21. NOTICES

Where notice is required or permitted under this Agreement, it shall be sent by first class mail, return receipt requested or personally delivered to the Parties at their respective addresses below:

For AURA: Karen Godzyk, AURA Contracts Officer (see Article 10)

For CONTRACTOR:
See Article 11

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates set forth below to be effective on the date first set forth above.

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.

CONTRACTOR

By:_____ **Date**
Title: _____

By: _____ **Date**
Title: _____

Acknowledged by:

_____ **Date**
Title:_____

TERMS AND CONDITIONS

ATTACHMENT A: STATEMENT OF WORK

ATTACHMENT B: CONTRACTOR'S PROPOSAL

ATTACHMENT C: SURETY PLAN