LS-137

LS--137(ANL)

PROCUREMENT HISTORY OF THE HYBRID UNDULATOR FOR THE U-5 BEAM LINE AT THE NATIONAL SYNCHROTRON LIGHT SOURCE*

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May 1989

bsm

Submitted as a Light Source Document #137

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DISCLAIMER

LS #-137
April 1989
P. J. Viccaro, D. C. James &
S. D. Bader

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Introduction:

As part of a national multi-institutional Materials Research Group (MRG), Argonne National Laboratory had the responsibility, under a prime contract with the U. S. Department of Energy, of obtaining a Permanent Magnet Hybrid undulator to be used on the U5 Beam Line on the VUV Ring at the National Synchrotron Light Source (NSLS). The procurement involved determining the technical specifications of the device as well as developing an effective procedure for evaluation of the proposals. The conceptual design of the magnetic structure including all pertinent magnetic field properties was developed before the actual procurement process was initiated. In addition, complete calculations of the expected spectral properties of the undulator were performed which included the emittance properties of the VUV ring. The results from both analysis were essential in determining the expected performance of the device and the final choice of operating parameters.

The procurement involved three distinct phases of activity until the final choice of a vendor was made. These involved:

A. Technical Specification and Related Issues.

- Specification of the conceptual magnetic design and expected spectral properties based on the research requirements of the MRG
- In-house cost base estimate.

- Technical specification of the device and its required magnetic and mechanical tolerance levels. Formation of the Technical Evaluation Team (TET) and formulation of the evaluation criteria.

B. Preparation and Distribution of Request For Proposals.

C. Evaluation of Proposals by the TET and Recommendations.

D. Final Selection of Vendor by the ANL Source Selection Board.

Each of these phases are discussed in detail below and relevant supporting documentation is contained in the Attachments. The Procurement process outlined above was initiated in March, 1987 and the selection of the Vendor took place in October, 1987.

Detailed Procurement Process:

Phase A.

The specification of the initial magnet design of the device was based on the radiation tunability requirements of the members of the MRG and requirements specified by the NSLS regarding the storage ring. In addition, the performance of the undulator was optimized from the point of view of actual beam emittance expected for the VUV ring. Field calculations were carried out in order to estimate magnetic field properties in the horizontal, vertical, and transverse directions.

Based on the preliminary design, a cost estimate was made. This estimate used in part vendor quotes for similar devices and the cost-base developed by the Advanced Photon Source.

The technical specifications including magnetic and mechanical tolerance requirements and the detailed statement of work was prepared. Consultations were made with established experts in the field of undulator design at sister

laboratories and other research institutions. The final Statement of Work including tolerances is included in Attachment 1.

A Technical Evaluation Team was formed and the evaluation criteria were formulated. The evaluation method was composed of two parts. In the initial evaluation phase, it was decided to provide no cost information to the TET in order that incoming proposals would be judged on their technical merit only. The evaluation criteria and weights given in Attachment 2 were distributed to each member of the TET. Cost information would be supplied after the technical evaluation by each member was completed.

Phase B.

A request for procurement was forwarded to ANL Procurement. A synopsis was prepared and a procurement invitation was sent for publication in the Commerce Business Daily (see Attachment 3.) The Request For Proposals (RFP) was prepared. The cover letter describing the documentation included in the RFP is given in Attachment 4. The RFP was sent to 12 prospective bidders given in Attachment 5.

Phase C.

The proposals received were evaluated individually by the TET members according to the procedure outlined in Phase A. Discussions were held by the TET concerning the individual ratings and further information was solicited from bidders on specific points of the proposals. After the technical evaluation was complete, the cost information was released to the TET. The final recommendation by the TET which took the cost information into account the individual member recommendations and group averaged recommendation was sent to the SSB.

Phase D.

A meeting was held by the SSB with members of the TET in which specific points concerning the recommendation of the TET were discussed. A final selection of the vendor was indicated by the SSB based on their evaluation of the recommendations of the TET.

LIST OF ATTACHMENTS

ATTACHMENT 1

RFP No. 87-DJ43-012
April 29, 1987

Appendix "B"

Statement of Work

For

"SPECIFICATION FOR A HYBRID UNDULATOR FOR THE U5 BEAMLINE AT NSLS"

SPECIFICATION FOR A HYBRID UNDULATOR FOR THE U5 BEAMLINE AT NSLS

1. SCOPE

This specification is for the design and fabrication of the basic magnetic and mechanical structure of a permanent-magnet hybrid undulator to be used on the U5 beamline on the vacuum ultraviolet VUV ring at National Synchrotron Light Source (NSLS). The device shall have a variable gap with provisions for remote adjustments incorporated into the design. The first choice for the permanent magnet materials shall be the Nd-Fe-B alloy and for the ferromagnetic pole, vanadium permendur. The specifications are such that the undulator will provide the recommended field strength and the smallest bandwidth on the first and third harmonic radiation within the emittance of VUV ring. Both the magnetic and mechanical properties are to be compatible with the vacuum chamber housing of the storage ring. The stand and mechanical structure shall also comply with the space requirements of the storage ring. End correctors shall comply with the NSLS requirements for the VUV ring.

A review of the preliminary magnetic and mechanical design is to occur before final acceptance of the design. A second review of the final design and its magnetic and mechanical tolerances will also occur before fabrication. Results of final tests shall be performed at the installation site (NSLS). Final acceptance of the device shall occur after the device has operated within specifications at NSLS for a period no less than 90 days.

The device will be used as a photon source for spin-polarized photoemission studies of magnetic materials. The performance of the device,

including gap adjustment, should not perturb normal storage-ring operations. The photon flux in the first three harmonics should be at least 70% of that calculated for an ideal magnet array using the actual NSLS VUV ring emittance values.

2. MAGNETIC STRUCTURES

2.1 Magnetic Materials: The permanent magnet material shall be Nd-Fe-B with a minimum coercive force ($-H_c$) of 10.6 kilo-Oersted (kOe). The ferromagnetic pole shall be vanadium permendur alloy. Both items shall be procured by the vendor.

2.2 Length: 2.25 m (maximum)

2.3 Period: 7.5 cm

2.4 Gap: The minimum gap is 3.4 cm (giving 3 cm clearance in the vacuum space, plus 0.2 cm vacuum-chamber wall thickness per wall). The gap adjustment device should operate to 2.4 cm gap, however, for future applications. The maximum open gap shall be such that the on-axial magnetic field is < 500 G.

2.5 Gap Variation: The gap shall be varied remotely from the minimum to maximum value. Encoder signals compatible with a microprocessor control unit shall be provided. The gap setting shall be reproducible to within 0.001 inch. It is envisioned that in normal operation the gap will be varied constantly throughout the day, to tune the photon energy. Hence, a rugged dependence device is needed.

2.6 Peak Magnetic Field: Shall be 1.0 kG (0.1 Tesla) at the minimum gap.

2.7 Magnetic Structure: The thickness of the pole and permanent magnetic materials shall be optimized to achieve the peak field and to achieve

longitudinal field quality along the midplane of the device. The maximum deviation of the midplane field variation from a pure sinusoidal one shall be less than 2% at any gap. Approval of the final design for the magnetic structure, including the permanent-magnet materials, will be made at the preliminary design review.

2.8 Pole Width: The selection of the permanent-magnet and vanadium-permendur width shall be dictated by the peak-field requirements given above, and the magnetic field uniformity required in the horizontal direction. Within an aperture of ±1 cm-horizontal in the midplane, the field rolloff shall be less than 0.5%. Final acceptance of the design shall be consistent with recent experimental data for a 7-cm period undulator. (See K. Halbach et al., IEEE Trans. Nucl. Soc., NS32 (1985) 3640) A two-dimensional model analysis, such as PANDIRA shall not serve as a basis for acceptance of performance.

2.9 Gap Errors: Gap errors which cause steering errors within the undulator body shall be less than 1 mil (0.001 inch). This includes pole-placement errors as well as permanent magnet placement errors and pole tilt.

2.10 Magnetic-Field Errors: At midplane along the axis of the undulator, the uncorrected field error shall be $|\frac{\Delta B_{rms}}{B}| < 0.01$. This value is based on a 30% loss in peak amplitude in the third-harmonic radiation. The analysis is based on the work by B. M. Kincaid, J. Opt. Soc. Amer., B2 (1985) 1294.

2.11 Phase Errors: The deviation in the period over the length of the device shall be $|\frac{\Delta\lambda_{rms}}{\lambda}| < 0.008$ on centerline, midplane. Verification can be based on a determination of the magnetic-field cross-over position.

2.12 Good Field-Length of Device: The above specifications on errors shall be satisfied to within 4 poles (2 periods) on each end.

2.13 End-Field Clamp: End-field clamp plates shall be provided so as to reduce stray and fringe fields to a minimum. The final configuration shall be approved at the preliminary design review.

2.14 End Correctors: End correctors shall be provided in accordance with specifications given by NSLS requirements.

2.15 Residual Steering Errors: The integrated dipole-field error shall not exceed 100 gauss-cm vertical. The integrated quadrupole shall be less than 10 gauss within a horizontal region of ± 1 cm. The integrated sextapole component shall be less than 100 gauss/cm. The trajectory errors shall be commensurate with the steering errors.

3.0 MECHANICAL STRUCTURE

3.1 The dimensions of the mechanical structure shall be consistent with the available space. Clearance shall be provided for the vacuum chamber that houses the storage ring.

4.0 DESIGN REVIEW: TIMETABLE AND SCOPE

4.1 Preliminary Design Review: A design review shall occur not later than four months, and as soon as possible after the acceptance of the order. The vendor shall meet with designated reviewers at the vendors site to present the magnetic and mechanical designs chosen. This meeting shall include presentation of:

4.1.1 magnetic-field calculations and choice of magnetic configuration

4.1.2 model measurements which may have been carried out

4.1.3 chosen mechanical tolerances

4.1.4 specifications for proposed purchase of permanent magnet material

4.1.5 choice of suppliers for permanent-magnet material

4.1.6 permanent magnet material testing plans

4.1.7 engineering approach and schedule showing major milestones

4.1.8 engineering layout drawings

Work necessary for the final design may proceed following written acceptance of the preliminary design.

4.2 Final Design Review: No more than two months, and as soon as possible, after the preliminary design review, the vendor shall present a) the final engineering drawings, b) detailed construction and testing plan, c) production schedule to the review teams. All additional work may proceed after written acceptance of the final design. Any minor changes after this date shall be negotiated and accepted by mutual consent.

5. ACCEPTANCE TESTING

Prior to shipment the vendor shall certify that all specifications of the undulator have been met. The purchasers shall be invited to witness these certification measurements. Final test data shall be supplied by the vendor. Written acceptance of these results will be required as part of approval process of the undulator.

6. DELIVERY

6.1 The undulator shall be delivered to NSLS within fifteen months from acceptance of the order.

6.2 The vendor shall repeat the certification measurements of the magnetic field at NSLS and shall make available any apparatus needed for these measurements. Written approval of all results will be required as part of the acceptance process of the undulator.

6.3 The vendor will assist in the installation of the undulator in the VUV ring at NSLS.

6.4 Final acceptance will occur after the device has operated within specifications at NSLS for a period of no less than 90 days.

7. WARRANTY

7.1 One year standard limited warranty against parts failure and defects in workmanship.

7.2 Warranty against damage in shipping to NSLS.

8. DOCUMENTATION

All relevant instruction and maintenance manuals, and schematic and engineering drawings are to be provided upon delivery.

9. BIDDING INSTRUCTIONS

9.1 Bids should be valid for six months.

9.2 List separately the price of optional features, and easily retrofitted features, such as the vacuum chamber that the undulator encloses.

ATTACHMENT 2

RFP. No. 87-DJ43-012
May 22, 1987

Evaluation Criteria

EVALUATION OF PROPOSAL FOR HYBRID UNDULATOR

Bidders are encouraged to prepare a technical proposal which is specific and sufficiently detailed to allow a complete evaluation of their methods for satisfying the requirements set forth in this RFP. The proposal shall address the following evaluation criteria:

1. Suitability and quality assurance of magnetic materials

The proposal shall contain purchasing specifications for both the permanent-magnet material and the ferromagnetic pole material, a description of the testing and sorting procedures for these materials, and a description of the equipment to be used in the testing.

2. Magnetic design

The proposal shall contain a detailed description of the magnetic design including, but not limited to, thickness and width of permanent magnet and pole materials, design of end correctors, and methods for achieving the magnetic field adjustments described in the specifications. Bidder should describe the procedures used in arriving at the design including, where applicable, the names and descriptions of computer programs employed. Additional design work, including model construction and testing if any, that would be performed after award of contract should also be described.

3. Magnetic measurements

Bidders should provide a detailed description of the magnetic measurement apparatus and techniques to be used to make the measurements required by these specifications.

4. Mechanical design

The proposal shall contain a detailed description of the undulator including support structures, gap adjustment mechanism, and vacuum chambers. The mechanical design of the magnetic structure of the undulator shall be described in detail including the methods chosen for installing and aligning the permanent magnet and pole materials, dimensional tolerances, fabrication and quality control procedures.

5. Experience and capability

Bidder shall present evidence of experience and capability in the design and construction of hybrid permanent-magnet undulators. This evidence could include, but is not limited to, the specifications of insertion devices built by the bidder, the date of completion, and the names, addresses and telephone numbers of the users of these devices.

6. Schedule and delivery

The proposal shall include a schedule of the planned work showing the performance period for each major element of work and setting forth a schedule of delivery of all items to be furnished under the contract. This shall include proposed delivery dates for all deliverables described in the specifications. Bidder shall also describe preparation for shipment, method of shipment, and installation procedures.

PROPOSAL No. 87-DJ43-012 EVALUATION: U5 HYBRID UNDULATOR

CRITERIA	%
Suitability & QA of Mag Mat'l	15
Magnet Design	15
Magnetic Measurements	10
Mechanical Design	25
Experience and Capability	25
Schedule and Delivery	10

Total				
Normalized Total				

ATTACHMENT 3

ARGONNE NATIONAL LABORATORY

9700 SOUTH CASS AVENUE, ARGONNE, ILLINOIS 60439

May 19, 1987

U. S. Department of Commerce
Office of Field Operations
Commerce Business Daily Section
P.O. Box 5999
Chicago, IL 60680

Transmittal No. 106

Argonne National Laboratory
Procurement Department
9700 South Cass Avenue
Argonne, IL 60439-4873

--A--Specification for a Hybrid Undulator for the U5 Beamline at NSLS. This specification is for the design and fabrication of the basic magnetic and mechanical structure of a permanent-magnet hybrid undulator to be used on the U5 beamline on the vacuum ultraviolet VUV ring at National Synchrotron Light Source (NSLS). The device shall have a variable gap with provisions for remote adjustments incorporated into the design. The first choice for the permanent magnet materials shall be the Nd-Fe-B alloy and for the ferromagnetic pole, vanadium permendur. The specifications are such that the undulator will provide the recommended field strength and the smallest bandwidth on the first and third harmonic radiation within the emittance of VUV ring. Both the magnetic and mechanical properties are to be compatible with the vacuum chamber housing of the storage ring. The stand and mechanical structure shall also comply with the space requirements of the storage ring. End correctors, end-field clamps, and residual steering errors shall comply with the NSLS requirements for the VUV ring.

The permanent magnet materials shall have a minimum coercive force of 10.6 kOe. The recommended period is 7.5 cm and the maximum length is 2.25 m. The gap adjustment should be rugged and dependable for constant daily operation from a minimum of 2.4 cm to a maximum such that the on-axis magnetic field is less that 500 Gauss. The gap setting shall be reproducible to within 0.001 inch. The maximum deviation of the midplane field variation from a pure sinusoidal one shall be less than 2% at any gap setting to within 2 period on each end of the device. The device shall be delivered to NSLS within fifteen months from the acceptance of the order. The purpose of this announcement is to establish a bidders list. Interested organizations will be placed on the bidders list by requesting in writing. Argonne National Laboratory, 9700 South Cass Avenue, Argonne, Illinois 60439, Attention: DonCarlos James, Building 201-PRO. This announcement closes 15 days after publication of this notice.

Commerce Business Daily

WEDNESDAY, May 27, 1987

Issue No. PSA-9347

A daily list of U.S. Government procurement invitations, contract awards, subcontracting leads, sales of surplus property and foreign business opportunities

PROCUREMENT
MAY 27 '87
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U.S. GOVERNMENT PROCUREMENTS

Services

xperimental, Developmental, Test and Research Work
arch includes both basic and applied research)

Argonne Nat'l Lab, Procurement Dept, 9700 South Cass Ave, Argonne, IL 60439-4873

SPECIFICATION FOR A HYBRID UNDULATOR FUR THE US BEAMLINE SLS This specification is for the design and fabrication of the basic magnetic and nical structure of a permanent-magnet hybrid undulator to be used on the US ne on the vacuum ultraviolet VUV ring at Nat'l Synchrotron Light Source (NSLS). vice shall have a variable gap with provisions for remote adjustments incorporated e design. The first choice for the permanent magnet mat'ls shall be the Nd-Fe-B al d for the ferromagnetic pole, vanadium permendur. The specs are such that the un r will provide the recommended field strength and the smallest bandwidth on the d third harmonic radiation within the emittance of VUV ring. The permanent mag t's shall have a minimum coercive force of 10.6 kOe. The recommended period is n and the maximum length is 2.25 m. The gap adjustment should be rugged and able for constant daily operation from a minimum of 2.4 cm to a maximum such he on-axis magnetic field is less that 500 Gauss. The gap setting shall be reproduci within 0.001 inch. The maximum deviation of the midplane field variation from a inusoidal one shall be less than 2% at any gap setting to within 2 period an each the device. The device shall be delivered to NSLS within fifteen months from the ance of the order. The purpose of this announcement is to establish a bidders list. sted organizations will be placed on the bidders list by requesting in writing. Attn: arlos James. Bldg 201-PRO. This announcement closes 15 days after publication of tice. (141)

US Army Belvoir Research, Development and Eng Ctr, Belvoir Procurement Div, Ft Belvoir, VA 22060-5606

IMPROVED CLARIFICATION SYS Sol DAAK70-87-R-0117. 7/7/87. 8/10/87 se date. Contact K Sterne, Contr Specialist, Attn AMSTR-PBLL, 703/664-5148. Officer, Robert Tobey. Configuration objective: less than 4000 lbs of wt, fit within 4' 4' high envelope, or provide info as to how sys could be redesigned to meet the ent objectives. Qty 1 sys. Performance specs include: 1. Capable of producing 50 r minute (GPM) feedwater, with a turbidity of less than one nephelometric turbidity NTU) from raw water source ranging in turbidity from 0 to 150 NTUs. If the sys t produce an effluent water of less than 1 NTU, the offeror must identify what addi ent steps would be necessary to achieve this performance. 2. Sys should not use nsumable matls that would have to be replaced during the course of water prod 3. The equip will be constructed of matls that will allow sys to operate on water of dissolved solids (TDS) concentration range from 0 to 40,000 milligrams per lit range covers water commonly referred to as fresh, brackish, and seawater. 4. Sys supplied with (i) all manuals necessary for sys operation and maintenance, (ii) all required for maintenance and repairs expected within a 2000 hr operational cycle.

CBD ELECTRONIC EDITION

An electronic edition of the COMMERCE BUSINESS DAILY is available from the following. Interested parties may contact them for full details. NATIONAL BID GUIDE, Inc. 6860 N. Kenanna, Tucson, AZ 85704, 602/575-1856. BIDNET, 5 Choke Cherry Rd, Rockville, MD 02850, 301/330-7000 or toll free 1-800/325-6871. CBD SEARCH SERVICES, INC., 13316 Rowles Pl. Herndon, VA 22070, 703/481-6644 or toll free 1-800/CBD-4750. UNITED COMMUNICATIONS GROUP, 4550 Montgomery Ave, Suite 700, North Bethesda, MD 20814 301/656-6666; SOFTSHARE, a Div. of MCR Technology Inc., 55 Depot Rd., Goleta, CA 93117, Sue Ernst 805/683-3841 (Collect); McGRAW HILL/DATA RESOURCES INC. (DRI), 24 Hartwell Ave., Lexington, MA 02173, 617/863-5100; DIALOG INFORMATION SERVICES, INC., 3460 Hillview Ave., Palo Alto, CA 94304, toll free 800/334-64.

(iii) level I docs IAW DLE-2031. (iv) 20 hrs of eng support prior to the start of Govt testing. FOB dest Ft Belvoir Research, Development and Eng Ctr, Ft Belvoir, VA. Del: 90 days after contr award. Reqs for sol may be made by letter or telegram. All resp sources may submit a proposal which will be considered. The Govt reserves the right to make more than 1 award. (142)

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FILE

... illumination that should be directed to different locations so that drivers can safely and comfortably tolerate glare from oncoming and following vehicles and 3) other safety relevant driver visual needs that can be identified. The procurement requires the creation of a computer program to evaluate the degree to which a headlight system meets the criteria developed. The period of performance is for eighteen months. RFP will be mailed only to organizations who submit written requests to this announcement. Requests must include two self-addressed mailing labels citing the RFP NUMBER. Anticipated issue date is 06-15-87. Note 80 applies. Note 64 applies except that the sol. will be furnished to any interested party furnishing a written request and two self-addressed labels. (142)

Dept of Transportation, National Hwy Traffic Safety Administration, Office of Contrs and Procurement, NAD-30, 400 Seventh St, SW, Rm 5301, Washington, DC 20590

A – SIDE WINDOW EJECTION REDUCTION STUDY sol: DTNH22-87-R-07442. BOD: Jul 15 87. POC: Alberta Jones, contr specialist, 202/366-9566. This procurement is to carry out the engineering design of the required strengths of the T-edges and channels, build side doors with the design using standard automotive construction techniques, and test the moveable attached-plastic glass-plastic design. The tests include the following: (1) drop tests with spherical weights and dummies, (2) six sled tests with dummies and (3) one side impact car crash test with a dummy. The goal of this project is to demonstrate a practical automotive design for moveable side window ejection reduction by attached. Plastic glass. Plastic glazing. This sol is being mailed to those organizations responding in writing to this announcement along with two pre-addressed mailing labels. Anticipated issue date is Jun 15 87. Note 80 applies. Note 64 applies except that the sol will be furnished to any interested part furnishing a written request and two self-addressed labels. (142)

Commander, Naval Ocean Systems Center, San Diego, CA 92152-5000: Attn: Code 216

A – DEVELOP INTEGRATED CIRCUIT A/D CONVERTER WITH ANTI-ALIAS FILTER N66001-87-R-0324. Closing date: o/a 07-15-87. Joyce Currie, 619/225-6758/6462. For copies of sols notice: Only written requests will be honored. Anita Dale Negotiator. Julie Brooke Contracting Officer. Develop an ultra-low power charge-mode integrated circuit A/D converter with anti-alias filter. Effort involves development of initial design modules (multichip-1), process development using multichip-1, and the evaluation of initial design modules on multichip-1. CPFF, twelve month effort contemplated. Sol to be issued o/a 06-15-87. See Note: 22.

A – DIGITAL FILTER INTEGRATED CIRCUIT N66001-87-R-0325. Closing date: o/a 07-15-87. Joyce Currie, 619/225-6758/6462. For copies of sols, notice: Only written requests will be honored. Anita Dale Negotiator. Julie Brooke Contracting Officer. Develop an ultra low power linear phase digital filter integrated circuit. Effort will involve development, analysis, design and simulation. A twelve month effort is contemplated, using a CPFF contract. Sol to be issued o/a 06-15-87. (142)

Headquarters Contrs Branch, Div of Contrs & Grants Management, HFA-512, 5600 Fishers Lane, Park Building, Rm 3-30, Rockville, MD 20857

A – ESTABLISHMENT OF METHODOLOGES TO ASSESS DIFFERENCES IN COMPLICATION RATES FOR SELECTED PROSTHETIC MECHANICAL HEART VALVES Sol 223-87-6003. BOD: 6/30/87. Contact, Patricia Caldwell, 301/443-4420. Contr Officer, Cynthia A Hawley, 301/443-4460. The objective of the contr is to identify and develop methodologies which can best examine possible differences in valve thrombosis, thromboembolism, and other adverse events among patients receiving different generic classes of prosthetic mechanical heart valve implants. Once the methodologies are evaluated and determined feasible, then perform a pilot study for one or more of these methodologies. This phase of the study will be performed in at least 2 clinical centers and must include an appropriate No. of patients. (141)

NASA-Ames Research Center, Mail Stop 241-1, Moffett Field, CA 94035.

A – DESIGN, FABRICATION AND TESTING OF THROTTLE AND NOZZLE SERVOS AND SERVE CONTROL UNIT RFP2-33018(CJD) due 07-26-87. POC: Carole Davis, 415/694-5786; Ava N. Johnson, 415/694-5786. Throttle and nozzle servos and a servo control unit for V/STOL research airplane. This equipment will be installed in the YAV-8B which is being used as a V/STOL research airplane at NASA Ames Research Center, Moffett Field, CA an additional throttle parallel servo and an additional nozzel parallel servo will be installed in an Integration and Test Facility (ITF) which will be used to develop and test flight hardware and software. Each of two Servo Control Units (SCU) will provide the capability to drive five existing attitude control servos, two attitude trim servos, the series and parallel throttle servos and the series and parallel nozzle servos. All responsible sources may submit a proposal which shall be considered by the agency. (142)

H Expert and Consultant Services

Nat'l Institute of Mental Health, Contrs Management Branch, ORM, Parklawn Bldg, Rm 15-81, 5600 Fishers Lane, Rockville MD 20857, Attn: Mary E. Bilstad, Contr Specialist, 301/443-2696

H – MENTAL HEALTH POLICY RESOURCE CENTER NIMH-PA-87-0026. POC David J. Eskenazi, 301/443-2696. The purpose of this effort is to pilot test for 3 years (to be funded incrementally subject to satisfactory performance availability of funds) the establishment of a Nat'l Mental Health Policy Center which will be responsive to the needs of federal, state and local communities for significant mental health policy info. The objectives are to: (1) provide an objective, central source of info and other resources to analyze and develop options for policies in the mental health field for utilization by research/academic communities, nat'l mental health organizations, and state, local and federal govt agencies; (2) collect, analyze, process and exchange info to support mental

Content

ATTACHMENT 4

ARGONNE NATIONAL LABORATORY
9700 SOUTH CASS AVENUE, ARGONNE, ILLINOIS 60439

June 26, 1987

See Distribution List

Subject: Request for Proposal (RFP) No. 87-DJ43-012, Regarding the Design and Fabrication of the Basic Magnetic and Mechanical Structure of a Permanent-Magnet Hybrid Undulator to be Used on the U5 Beamline on the Vacuum Ultraviolet VUV Ring at National Synchrotron Light Source (NSLS).

Argonne National Laboratory, under a prime contract with the U. S. Department of Energy (DOE), has the responsibility of obtaining the item which is the subject of this Request for Proposal (RFP). Your company is being invited to furnish necessary information for meeting this requirement. The Laboratory is most interested in receiving a Fixed Price (FP) proposal from your organization to perform the work as stated in the enclosed statement of work (SOW). The anticipated period of performance to successfully complete this effort, as stated in the SOW, is fifteen (15) months after contract award. Your attention is directed to the enclosed documents which constitute requirements for this RFP and should be fully complied with as indicated.

Enclosure No. 1: Proposed contract and applicable terms and provisions for any resultant contract. These include the following:

A. Sample Fixed Price Contract Format.
B. Appendix "A" - "Argonne Terms and Conditions for Fixed-Price Supply Contracts", dated 6/86.
C. Appendix "D-1" - "Intellectual Property Provisions Research, Development, Demonstration Contract, General Contractor, dated November 1, 1982.

Enclosure No. 2: Pre-Award Information and Booklet of Representations and Certifications dated 3/87.

Note: All applicable sections of the enclosed booklet entitled Pre-Award Information must be completed and returned with your response.

Enclosure No. 3: Contract Pricing Proposal, PD-9, dated 2/85.

Enclosure No. 4: Appendix "B", Statement of Work For "Specification For a Hybrid Undulator For the U5 Beamline at NSLS".

Enclosure No. 5: Evaluation Criteria, dated May 22, 1987.

Enclosure No. 6: Late Submissions, Modifications and Withdrawals of Proposals, dated June 19, 1987.

The evaluation of the response(s) will be based upon the following criteria:

1. Experience and capability
2. Mechanical design
3. Magnetic design
4. Suitability and quality assurance of magnetic materials
5. Magnetic measurements
6. Schedule and delivery

Criteria numbered 1 and 2 are of equal and are most important. Criteria numbered 3 and 4 are of equal and lesser importance. Criteria numbered 5 and 6 are of equal and are least important, however, their level of importance should not be minimized.

Your firm's proposal should fully explain your proposed methods and procedures in meeting the requirements set forth in the Statement of Work, as well as the requirements stated in the Evaluation Criteria. To facilitate an effective evaluation process, the order of the items in your response should correspond with the above stated criteria.

This Request for Proposal (RFP) does not commit the Laboratory to pay any cost for the preparation and submission of a proposal. It is also brought to your attention that the Authorized Procurement Official is the only individual who can legally commit the Laboratory to the expenditure of funds in connection with this proposed procurement.

Your proposal should be submitted to the following address:

Argonne National Laboratory
9700 S. Cass Avenue, Building 201
Argonne, IL 60439-4873

Attention: DonCarlos James, Subcontracts

Your proposal should identify the proposed key individual(s) performing the project, and the individual(s), (name, title, and telephone number) who will represent the organization(s) in any ensuing negotiations. Your proposal (three [3] complete packages with separately bound technical and cost proposals) should be properly identified and should be mailed or hand carried to the address specified above no later than 4:30 p.m. on Thursday, August 13, 1987.

The Laboratory reserves the right to accept or reject all proposals if that is determined to be in the best interest of the Laboratory. Award may be made without discussion; and hence, your proposal should be submitted initially on the most favorable terms.

Your proposal should be valid for a period of six months from the date of your response.

All questions, comments, and correspondence should be directed to the undersigned at the address specified above or telephone (312) 972-7080.

Sincerely,

D. James
Contract Specialist Senior
Procurement Department

DJ:gmp
Encls.

bxc w/o encl.: CF File
File
DJ File

ATTACHMENT 5

Sundstrand Corporation
4747 Harrison Avenue
P. O. Box 7002
Rockford, IL 61125-7002

Attention: Ted Fokins - 869-6

Westinghouse Research &
Development Center
1310 Beulah Road
Pittsburgh, PA 15235

Attention: Ms. Diana Mance

Oxford Superconducting Technology
600 Milik Street
Carteret, NJ 07008-1199

Attention: Roy J. Hausman

GA Technologies, Inc.
Mail Stop 13/254
P. O. Box 85608
San Diego, CA 92138-5606

Attention: J. B. Gibson

A. Mac D. Engineering
1235 Ashland Avenue
Wilmette, IL 60091

Lawrence Berkeley Lab.
1 Cyclotron Blvd.
Berkeley, CA 94720

Attention: K. Birkner

Rocketdyne Division
Rockwell International Corp.
6633 Canoga Avenue
Canoga Park, CA 91303

Attention: D.B. Vandiver

Deacon Research
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Palo Alto, GA 94304

Field Effects, Inc.
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Acton, MA 01720

Attention: R. Holsinger

Hughes Aircraft Company
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Los Angeles, CA 90045-0066

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Sonolysts, Inc.
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Attention: Jane E. Goldsmith

Spectra Technology
2755 Northup Way
Bellevue, WA 98004-1495

Attention: Beverly A. Pelto