July 15, 2020

PROJECT: Refurbishment & Upgrade of Planetarium Projection System

Dear Prospective Submitter:

You are invited to submit a sealed price proposal for the above project. A copy of the Public Notice, and Request for Proposal are attached. Please make certain your Proposal is signed by an authorized representative of your company. Other items may be required to be included in your proposal so please read the documents thoroughly.

If you have questions please contact me at (423) 229-9315 or email brentmorelock@kingsporttn.gov. We look forward to receiving your proposal.

 Regards,

Brent Morelock, CPPO, CPPB
Procurement Manager
REQUEST FOR PROPOSAL

Sealed Proposals for the following will be received by the Procurement Manager until 4:00 P.M., Eastern Time, July 29 2020, and at that time opened in the Procurement Department located at 625 West Industry Drive. Due to the COVID-19 emergency, neither the public nor vendors will be allowed to be physically present at the bid opening. However, you may dial 423-343-9958 to participate via conference call. If the sealed proposal is being delivered by a courier, it can be mailed to 225 W. Center Street, Kingsport, TN 37660. If the sealed proposal is being physically brought in by a vendor the day of the bid opening, please drop it off in the bin outside of the Purchasing Department door at 625 W. Industry Drive, Kingsport, TN 37660. All bids will be considered for award or rejection at a later date.

PROJECT: REFURBISHMENT & UPGRADE OF PLANETARIUM PROJECTION SYSTEM

Documents for the above referenced item is available online at https://www.kingsporttn.gov/city-services/purchasing/. Interested parties may also contact the Procurement Department at (423) 229-9419.

By submission of a signed proposal bid, the bidder certifies total compliance with Title VI and Title VII of the Civil Rights Act of 1964, as amended, and all regulations promulgated thereunder.

No submitted proposals may be withdrawn for a period of sixty (60) days after the scheduled closing time of the receipt of proposals. All proposals shall be signed, sealed and addressed to the Procurement Manager, City of Kingsport, 225 W. Center St., Kingsport, TN 37660 and marked “Planetarium Projection System Upgrade”. The City by its governing regulations reserves the right to accept or reject any or all proposals received, to waive any informalities in bidding and to re-advertise.

PUB 1T: 07/15/20
Chris McCartt
City Manager
PROCUREMENT PROCESS

A. Proposals will be received by the Procurement Manager until 4:00 P.M., Eastern Time on July 29, 2020 at which time it will be publicly opened in the Procurement Department, 625 W. Industry Drive, Kingsport, Tennessee.

B. The Sealed Proposal shall be signed by an authorized representative and the sealed envelope addressed as follows:

Procurement Manager
City of Kingsport
225 W. Center Street
Kingsport, Tennessee 37660
Proposal for Planetarium Projection System Upgrade

C. An original hard copy and two (2) additional hard copies of the Proposal are required.

D. Proposals, modifications, or corrections received after the scheduled closing time of the receipt of Proposals will not be considered. The City of Kingsport is not responsible for delays in delivery by mail, courier, etc.

E. No submitted Proposal may be withdrawn for a period of one hundred twenty (120) days after the scheduled closing time of the receipt of Proposals.

F. No oral interpretation will be made to any Proposer as to the meaning of the Proposal Specifications or any part thereof. Each written request for clarification or interpretation shall be made in writing to the City.

NOTE – It is the intent of the City to issue one (1) addendum, if necessary. Written request for clarification and/or interpretation must be submitted via email to the Procurement Manager by the end of the business day, July 21, 2020, and addendum will be issued by 4:00 P.M., Eastern time, on July 24, 2020 and will be available online at https://www.kingsporttn.gov/city-services/purchasing/. Written requests for clarification shall be submitted to the Procurement Manager by email to brentmorelock@kingsporttn.gov.

It shall be the Proposer’s responsibility to make inquiry as to the addenda issued. Any and all addenda shall become part of the specifications and all Proposers shall be bound by such addenda, whether or not received by Proposer.

General Terms and Conditions

A. Taxes – The City is exempted from Federal Excise Taxes, State of Tennessee and local sales taxes and Proposer must quote prices which do not include such taxes, unless by law the taxes must be a part of the price. Exemption Certificates will be furnished upon request.

B. Indemnification – The City of Kingsport, its officers, agents and employees shall be held harmless from liability from any claims, damages and actions of any nature arising from the use of any service and/or materials furnished by the Proposer, provided that such liability is not attributable to negligence on the part of the using agency of failure of the using agency to use the materials in the manner outlined by the Proposer in descriptive literature or specifications submitted with the Proposal. The City will not indemnify the successful Proposer.

C. Patent Liability – The successful Proposer, at his own expense, will defend any suit which may be brought against the City to the extent that it is based on a claim that the goods furnished through a contract/agreement infringes a United States patent, and in any such suit
will pay those costs and damages which are attributable to such claims and finally awarded against the City.

D. Limitation of Remedies – Any remedies in the Proposer’s Proposal, to include Agreement, License Product Agreement, Terms and Conditions, Literature, etc., that may be considered in agreement to waive the legal rights of the citizens of the City of Kingsport may be considered cause for rejection.

E. All agreements related to the purchase and sale of any product pursuant to this bid document will include the following conditions: "Notwithstanding anything in this section to the contrary, any provision of provisions of this Section will not apply to the extent they are (it is) finally determined by a court of competent jurisdiction, including Appellate review if pursued, to violate the laws or Constitution of the State of Tennessee."

F. Insurance – During any work performed by the successful Proposer(s) on the premises of the City or otherwise, the successful Proposer(s) agrees to take such measures as to effectually prevent any accident to persons or property during or in connection with the work; and especially to indemnify and save harmless the City from all loss, costs, damages, expense and liability for property damage and for bodily injuries to, or death of, any persons, including without limitation, as to both property damage and bodily injury, and the Proposer and the City and their representative agents and employees, occasioned in any way by the acts or omissions of the Proposer, or the Proposer’s agents, employees, during or in connection with said work, excepting only property damage, bodily injury or death caused by the sole negligence of the City, its agents or employees.

The successful Proposer shall maintain such insurance as will protect it from claims under Workers’ Compensation Acts and from any claims for bodily injuries, including death, either to its employees or others, and from all claims on account of property damage, which may arise in connection from said work.

All Certificates of insurance and policies shall contain the following clause: "The insurance covered by this Certificate will not be canceled or materially altered, except after thirty (30) days written notice has been received by the City."

Insurance required with a minimum of One Million Dollars ($1,000,000.00) limits are Comprehensive General Public and Professional Liability, Comprehensive Automobile Liability and Owner’s Liability. Malpractice Insurance is required with a minimum limit of One Million Dollars ($1,000,000.00) per occurrence, Five Million Dollars ($5,000,000.00) aggregate.

This requirement will be effective for the life of any contract/agreement entered into by the Proposer and the City.

G. F.O.B. – All prices will be quoted F.O.B. Kingsport, Tennessee, delivery to City of Kingsport’s location shall be without additional charge.

H. By submission of a signed Proposal, the Proposer certifies total compliance with Title VI and Title VII of the Civil Rights Act of 1964, as amended, and all regulations promulgated thereunder.

I. Contracts and purchases will be made or entered into with the lowest, responsible, compliant Proposer meeting specifications for the particular grade or class of material, work or service desired in the best interest and advantage to the City of Kingsport. Responsible Proposer is defined as a Proposer whose reputation, past performance, and business and financial
capabilities are such that he would be judged by the appropriate City authority to be capable of satisfying the City’s needs for a specific contract or purchase order.

J. The City reserves the right to determine the low Proposer either on the basis of the individual items or on the basis of all items included in its Request for Proposal, unless otherwise expressly provided in the Request for Proposal. The City reserves the right to accept any item or group of items of any kind and to modify or cancel in whole or in part, its Request for Proposal.

K. All contracts or purchase orders issued for this award will be governed by the laws of the State of Tennessee. Arbitration is not permitted and if a dispute arises between the parties concerning any aspect of the contract or purchase order and it cannot be resolved by mutual agreement, any party may resort to resolution of the dispute by litigation in the state or federal courts for Kingsport, Sullivan County, Tennessee. The parties waive their right to a jury trial. Mandatory and exclusive venue and jurisdiction for any disputes shall be in state or federal courts for Kingsport, Sullivan County, Tennessee.

L. The City, in accordance with its governing directives, reserves the right to reject any and all Proposals, to waive any informality or irregularities in Proposals and unless otherwise specified by the Proposer, to accept any item.

M. All contracts, purchase orders, and any documents or material obtained by the City may be subject to disclosure in whole or in part pursuant to the Tennessee Open Records Act set out in T.C.A. 10-7-503 et seq. without regard to any provision contained in the document declaring information confidential.

N. All contracts or purchase orders will include a provision that is not assignable by the Proposer without the written consent of the City.

O. CONFLICT OF INTEREST:
   1. No Board Member or officer of the City of Kingsport or other person whose duty it is to vote for, let out, overlook or in any manner superintend any of the work for the City of Kingsport has a direct interest in the award of the vendor providing goods or services.
   2. No employee, officer or agent of the grantee or sub-grantee will participate in selection, or in the award or administration of an award supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when the employee, officer or agent, any member of their immediate family, his or her partner, or an organization, which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award.
   3. The grantee’s or sub-grantees officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from vendors, potential vendors, or parties to sub-agreements.
   4. By submission of this form, the vendor is certifying that no conflicts of interest exist.

P. DRUG FREE WORKPLACE REQUIREMENTS:
   1. Private employers with five or more employees desiring to contract for construction services attest that they have a drug free workplace program in effect in accordance with TCA 50-9-112.
Q. ELIGIBILITY:
   1. The vendor is eligible for employment on public contracts because no convictions or
      guilty pleas or pleas of nolo contend to violations of the Sherman Anti-Trust Act,
      mail fraud or state criminal violations with an award from the State of Tennessee or
      any political subdivision thereof have occurred.

R. GENERAL:
   1. Vendor fully understands the preparation and contents of the attached offer and of
      all pertinent circumstances respecting such offer.
   2. Such offer is genuine and is not a collusive or sham offer.

S. IRAN DIVESTMENT ACT:
   1. Concerning the Iran Divestment Act (TCA 12-12-101 et seq.), by submission of
      this bid/quote/proposal, each vendor and each person signing on behalf of any
      vendor certifies, and in the case of a joint bid/quote/proposal, each party thereto
      certifies as to its own organization, under penalty of perjury, that to the best of its
      knowledge and belief that each vendor is not on the list created pursuant to § 12-
      12-106.

T. NON-COLLUSION:
   1. Neither the said vendor nor any of its officers, partners, owners, agents,
      representatives, employees or parties interest, including this affiant, has in any way
      colluded, conspired, connived or agreed, directly or indirectly, with any other
      responder, firm, or person to submit a collusive or sham offer in connection with
      the award or agreement for which the attached offer has been submitted or to
      refrain from making an offer in connection with such award or agreement ,or
      collusion or communication or conference with any other firm, or, to fix any
      overhead, profit, or cost element of the offer price or the offer price of any other
      firm, or to secure through any collusion, conspiracy, connivance, or unlawful
      agreement any advantage against the City of Kingsport or any person interested in
      the proposed award or agreement.
   2. The price or prices quoted in the attached offer are fair, proper and not tainted by
      any collusion, conspiracy, connivance, or unlawful agreement on the part of the
      firm or any of its agents, representatives, owners, employees, or parties in
      interest, including this affiant.

U. BACKGROUND CHECK REQUIREMENT FOR SCHOOL SYSTEM SUPPLIERS:
   3. In submitting this bid/quote/proposal, you are certifying that you are aware of the
      requirements imposed by TCA § 49-5-413 (d) to conduct criminal background
      checks through the Tennessee Bureau of Investigation and the Federal Bureau of
      Investigation on yourself and any of your employees who may come in direct
      contact with students or who may come on or about school property anytime
      students are present. You are further certifying that at no time will you ever
      permit any individual who has committed a sexual offense or who is a registered
      sex offender to come in direct contact with children or to come on or about
      school property while students are present.
The planetarium theater at Bays Mountain Park in Kingsport, TN is a unique facility. It is strategically placed in the Appalachian region of the United States and it is the only planetarium theater like it in a 250 mile radius. It is one of the finest theaters in the United States due to its standard of quality upon its complete replacement in 2009. This standard of quality is the basis of this current replacement of digital projectors and maintenance of the existing Carl Zeiss ZKP-4 Star Projector and other components.

The following list contains necessary specifications that must be met for the digital projectors and associated equipment and software. Regarding these specs, it’s not just the numbers, but the resulting, final quality image projected on the dome screen. If any specs are in question, the vendor must be able to prove their values.:

1. Hybridization - The digital system MUST be in 100% synchronization with the existing Carl Zeiss ZKP-4 optical star projector without lowering the ZKP-4 in height.
   1.1. The digital projectors will, through PowerDome software, provide constellation overlays, celestial markers, stars, and more for night sky reproduction and astronomy education.
   1.2. The hybridization will include complete synchronization of all planetarium motions.
   1.3. The hybridization will result in a complete link of both an optical and digital sky on the dome, including motions, whether the control is from the ZKP-4 interface (via SkyControl software or the live panel interface) or the PowerDome interface.

2. Resolution - at least 4.3K Net
   2.1. This number must be unique pixels on the dome, not a combination of pixels that overlap.
   2.2. The quality of the pixels must be extremely sharp, even in the corners of each projection from each projector, to provide a highly defined image on the dome.

3. Lamp Source - LED (at least 20,000 hours)

4. Brightness - At least 3.6 cd/qm.

5. Light Engine
   5.1. DLP technology for color and contrast stability
   5.2. Blending of a multi-projector system must not require physical masks.

6. Off-Axis Projection - Due to the ZKP-4 occupying the center of the theater, the digital projectors must not project through the ZKP-4 due to a shadow cast. The digital
Refurbishment & Upgrade of Planetarium Projection System

projectors must either project from the center of the theater or the perimeter of the theater, but off-axis.

6.1. If it is off-axis, then the digital system must be fully capable of projecting an extremely sharp image, even in the corners of each projection from each projector.
6.2. If off-axis, the projector stands need to be placed to minimize moving seats to the center.
6.3. If off-axis, the physical projector must have a minimal footprint.
6.4. If off-axis, BMP needs the exact dimensions and specifications of the stands necessary to mount to the concrete floor and for the projector to mount to the stand at the correct height, orientation and placement. The stands will be steel posts that are hidden in the circumference walls and only have a short, horizontal post that enters the theater space through the wall. The stands will be provided locally, but need to be approved by provider for being strong and stable enough. Provider will provide the exact design for how the projectors will mate with the stands. If there are six digital projectors, five will be utilizing hidden posts. The sixth unit in the front of the theater will have to have its own stand.
6.5. If the projectors are from the center of the theater, they cannot be so large that we would lose seats that are near the pathway.
6.6. The placement of the projectors needs to be approved by the Planetarium Director.

7. Contrast - at least 2,500,000:1 (on/off) - [2.5 million to one (on/off)]
7.1. This is one of the most important specifications for the digital projectors. A contrast this high means that when we use the digital projectors with the ZKP-4, we will not add any gray, scattered light onto the dome screen. Any gray projected will lower the contrast and wash out the ZKP-4 stars. It also muddies any projected image or full-dome program.

8. Lens - Quality and Compatibility
8.1. The lens must mate with the digital projector and work to maximize the final quality of the image projected on the dome.
8.2. The lens must also be of very high light transmission. It must be over 90% to maximize the lumens that are emitted from the light engine.
8.3. The lens quality must provide an extremely sharp image, even to the far corners. A soft image results in a much lower quality image on the dome.

9. Serviceability - The digital projectors must be easy to maintain and replace parts if necessary. Preferably in a “modular” design. It must also be guaranteed to be serviceable and parts available for at least 10 years from installation.

10. Color Depth - 30 bit RGB
11. Mounting - The digital projectors need to be mountable to frames/posts that we provide. Those frames will also allow for a designed metal cover of artistic nature to hide the inner frame and around the sides of the projector.

12. Auto-Calibration
   12.1. The digital system needs to include an auto-alignment system to calibrate the digital projections for color, geometry and blending.

13. Computer Control - The computer rack needs to include an appropriate set of computers to run the digital projectors, have a master computer to run the PowerDome software, have an associated NAS media server for show files and include any other necessary electronics and cables for proper function.

14. Computer Accessories
   14.1. Monitors, keyboards and mice will be included for the digital and ZKP-4 interfaces.
   14.2. There needs to be included two KVM switches for the front desk. They need to be able to handle both PC and Mac sources.

15. Service/Internet Computer - The system needs a computer that can allow for remote access for upgrades and service, but also to allow for remote file transfer of processed shows and for online download of 3D databases and high-res texture maps.

16. Workstation - The system needs to include a computer for off-line show timeline creation. This computer needs to be the same as the master and client computers to act as an emergency replacement if necessary.

17. Software - PowerDome, UniView & Synchronization
   17.1. The ZKP-4 requires complete synchronization with the digital projectors and their control software (PowerDome).
   17.2. PowerDome - PowerDome must be modern enough for easy control from a mobile device to control pre-programmed shows, live operation of the ZKP-4, digital astronomy software, audio control, and more. PowerDome must be able to be programmed as modules for easy creation of show control files. Show playback programming needs to be able to handle full-dome and flat video, still images, audio, and allow for creation of line sets and shapes.
   17.3. If there is an upgrade to any of the software within the warranty period after installation, it will be provided for free.
   17.4. 3D Planetarium - This would be the latest equivalent of UniView. It allows for live control to “fly” through the Solar System, Milky Way Galaxy, and the Universe. It will also allow for download and use of high-res texture maps of planets, the Moon, and Earth in many different layers of many types of data sets.
   17.5. 2D Planetarium - This would allow for a digital version of the ZKP-4 mainly to provide celestial markers, constellation overlays, and more. This must be in complete
Refurbishment & Upgrade of Planetarium Projection System

synchronization with the ZKP-4 and not “jump” to a time/date/place setting, but to move at the same rate as the ZKP-4 is moving at any particular time.
17.6.No pre-slicing of full-dome content will be necessary. PowerDome must accept full-dome video or stills and then slice on the fly upon playback. This must be in complete synchronization with the ZKP-4.
17.7.PowerDome must be able to use 10-bit HEVC quality video.
17.8.The system must include a full-dome encoder that can output in the 10-bit HEVC format.
17.9.The system must include a mobile tablet for remote control, preferably the latest iPad Pro.
18. The installation must include time for proper training on the new software interfaces and basic maintenance.
19. The installation and maintenance must include all labor and related parts for the completion of the project pertaining to the digital and optical projectors and associated equipment.

The following list contains necessary specifications that must be met for the upgrade and maintenance of the Carl Zeiss ZKP-4 optical star projector
1. Replacement of the control computer, necessary electronics and latest version of SkyControl software.
2. LED upgrade - This is necessary to increase the brightness of the projected stars, Sun, Moon, planets, and Milky Way to not only compete with the brightness of the digital projection system, but to aid visually-impaired visitors and potential capture by TV press video cameras.
3. General maintenance of the ZKP-4 and to address at least the Moon drifting and adjusting the Milky Way.
4. Replace and install new fiber-optic star fields #13 & #23.
5. Replace and install new lens for star field #7.
6. If any other maintenance needs are apparent, those will be taken care of as well.

Note:
1. Provider must provide within eight (8) weeks of signed contract with the City of Kingsport:
   1.1. Exact measurements of each digital projector’s placement within the theater. This includes each projector’s:
      1.1.1. Height
Refurbishment & Upgrade of Planetarium Projection System

1.1.2. Position on floor where it is centered
1.1.3. Area of space its vertical footprint includes
1.1.4. Distance from wall/cove
1.1.5. Off-Axis angle, if it is needed, for the placement of the stands/posts.

1.2. Automated alignment camera placement

2. Provider must coordinate with the general contractor, or other appropriate person on the project, on any needs they may have.

3. Provider needs to provide the workstation to start learning and processing existing shows for the new system by the end of August 2020. Though, earlier is better.
   3.1. Again, the workstation needs to act as a duplicate backup to the main computers for the digital projectors. Thus, if it is necessary to delay the workstation’s delivery in order to be identical to the main computers, that will be acceptable. In this eventuality, it is then necessary for the workstation to be delivered at least by the end of October 2020. If early delivery of the final workstation is not possible in the above timeframe, then a “loaner” computer will be acceptable to be replaced by the final workstation upon digital projection system installation.
   3.2. If there is a delay in providing the final workstation or loaner computer, the encoding software needs to be delivered by the end of August 2020 to allow for enough time to re-encode all the full-dome video files installed in our current system.

4. The completion of this part of the whole project (digital projectors, associated computers and auxiliary equipment, installation, ZKP-4 maintenance and upgrade, etc.), as described by this document, needs to occur by the end of February, 2021.
   4.1. If provider needs three weeks for installing all components and ZKP-4 maintenance, then they should plan on starting on the second week of February, 2021 and not earlier to meet the deadline for completion.
   4.2. If there are installation delays beyond anyone’s control due to an event like the COVID-19 pandemic, the provider must communicate those delays to the City of Kingsport and the Bays Mountain Park Manager and Planetarium Director.
Refurbishment & Upgrade of Planetarium Projection System

Please provide pricing as such:

1. Base Bid:
   1.1. (Fulldome Projector System)

2. Base Bid plus Alternate 1:
   2.1. (Fulldome Projector System and ZKP-4 Control System Upgrade)

3. Base Bid plus Alternate 2:
   3.1. (Fulldome Projector System, ZKP-4 Control System Upgrade and ZKP-4 Service)

4. Base Bid plus Alternate 3:
   4.1. (Fulldome Projector System, ZKP-4 Control System Upgrade, ZKP-4 Service and ZKP-4 LED Upgrade)