FIRST ADDENDUM TO AGREEMENT
PROFESSIONAL ENGINEERING SERVICES
Between City of Columbia, Missouri And SEGA, Inc.

THIS ADDENDUM (hereinafter "Addendum") is made by and between the City of Columbia, Missouri, a municipal corporation (hereinafter "CITY"), and SEGA, Inc., a Kansas Corporation of 16041 Foster, PO Box 1000, Overland Park, KS, 66085 (hereinafter "ENGINEER") and is entered into on the date of the last signatory below. CITY and ENGINEER are each individually referred to herein as a "Party" and collectively as the "Parties."

WHEREAS, CITY and ENGINEER entered into a "Professional Engineering Services Agreement" dated March 6, 2014 (hereinafter "Original Agreement") for CITY to receive, and ENGINEER to provide, engineering support services for Boilers 6, 7, and 8 at the Municipal Power Plant, and equipment procurement development and implementation for Boiler 8; and

WHEREAS, an increased project budget is necessary to complete the Scope of Services set forth in Original Agreement due to additional, unforeseen regulatory requirements on permit applicants which required expanded support services and additional project coordination; and

WHEREAS, major equipment for Boiler 8, as outlined in Phase II and Phase III of the Original Agreement, has been procured by CITY and ENGINEER will provide professional engineering services to assist in fitting the equipment into the Municipal Power Plant; and

WHEREAS, Section 7.5 of the Original Agreement permits the Parties to make changes within the general scope of ENGINEER's services upon execution of a mutually acceptable amendment; and

WHEREAS, CITY and ENGINEER now wish to amend the Original Agreement, consistent with Section 7.5;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and for other good and valuable consideration, the Parties hereto agree as follows:

1. Amendments of Original Agreement

A. **General**. All terms and provisions of Original Agreement, a copy of which is attached hereto as **Exhibit 1** and made a part of this Addendum, will remain in full force and effect on both Parties, except as amended in this Addendum.

B. **Amendments**. The following language shall modify and replace the respective subsections of the Original Agreement as designated herein:

(i) *Amending Section 5 – Period of Service*

5.3. Services shall be completed by January 31, 2017. CITY shall have the right to establish performance times for individual phases or elements of the PROJECT by delivering a written schedule setting out the performance times to the ENGINEER.

(ii) *Amending Section 6 – Payments to Engineer*

6.1.1.1. For time spent by personnel, payment will be at the hourly rates indicated in the "Rate Schedule for Instrumentation and Control Engineering Services" (attached hereto as **Exhibit 2** and made a part of this Addendum). Such rates include overhead and profit. This rate schedule will be effective to the end of this Agreement.

6.1.2. Total payment for Scope of Services and all other expenses and costs to the CITY under this Agreement and described herein shall **not exceed $656,961.46**.

2. Expanded Scope of Services, Phase I

A. **Expanded Services**. The Scope of Services in Original Agreement for Phase I is expanded to include the additional work described in "Change Order Request No. 1" attached hereto as **Exhibit 3** and made a part of this Addendum. This change order is an addition to the rest of the Scope of Services of Original Agreement.

B. **Budget Impact**. In consideration for these services, CITY agrees to increase project budget of Phase I cost estimates to be paid to ENGINEER in the amount of $60,726.46. This increase in budget is in addition to the rest of the project budget for Phase I listed in the Original Agreement.

3. Expanded Scope of Services, Phase III

A. **Expanded Services**. The Scope of Services in Original Agreement for Phase III is expanded to include the additional work described in "Change Order Request No. 2" attached hereto as **Exhibit 4** and made a part of this Addendum. This change order is in addition to the rest of the Scope of Services of the Original Agreement.

B. **Budget Impact**. In consideration for these services, CITY agrees to increase project budget of Phase III cost estimates to be paid to ENGINEER in the amount of $50,000. This increase in budget is in addition to the rest of the project budget for Phase III listed in the Original Agreement.

4. Engineering and Field Control Services

A. **Services**. ENGINEER agrees to assist CITY with engineering and field control services to upgrade the combustion control system on Boiler 8 at the Municipal Power Plant in the manner set forth in "Proposal for Engineering and Field Control Services" letter dated December 29, 2015, attached hereto as **Exhibit 5** and made a part of this Addendum. This is in addition to the rest of the Scope of Services of the Original Agreement.

B. **Budget Impact**. In consideration for these services, CITY agrees to increase the project budget of the overall Scope of Services of the Original Agreement in the amount of $181,235. This increase in budget is in addition to the rest of the project budget for the Scope of Services listed in the Original Agreement.

5. Agreement

The Parties hereby adopt, ratify and confirm the Original Agreement as it is amended by this Addendum. This Addendum shall be binding on, and inure to the benefit of, the Parties hereto.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement by their duly authorized representatives as of the date of the last signatory to this Agreement.

CITY OF COLUMBIA, MISSOURI

By: _____
Mike Matthes, City Manager

Date: _____

ATTEST:

By: _____
Sheela Amin, City Clerk

APPROVED AS TO FORM:

By: _____
Nancy Thompson, City Counselor

CERTIFICATION: I hereby certify that this contract is within the purpose of the appropriation to which it is to be charged, Account No. _____, and that there is an unencumbered balance to the credit of such appropriation sufficient to pay therefor.

_____
Michele Nix, Director of Finance

SEGA, INC.

BY: _____

TITLE:_____

DATE:_____

ATTEST

BY: _____

TITLE:_____

EXHIBIT 1

PROFESSIONAL ENGINEERING SERVICES AGREEMENT
City of Columbia, MO and Sega, Inc.

Dated March 6, 2014

AGREEMENT
For
PROFESSIONAL ENGINEERING SERVICES
Between
THE CITY OF COLUMBIA, MISSOURI
And
SEGA, Inc.
16041 Foster
Overland Park, KS 66085

THIS AGREEMENT made as of 6th day of March, 2014, by and between the City of Columbia, Missouri, hereinafter called the CITY, and SEGA, Inc., a Kansas Corporation of 16041 Foster, PO Box 1000, Overland Park, KS, 66085, hereinafter called the ENGINEER.

WITNESSETH, that whereas the CITY intends to make improvements as described below, hereinafter called the PROJECT, consisting of the following:

> Engineering Services for Boiler No. 8 NOx Reduction Project at the Municipal Power Plant, as more fully described in Attachment A
>
> *(Description of Project)*

NOW, THEREFORE, in consideration of the mutual covenants set out herein the parties agree as follows:

ENGINEER shall serve as CITY's professional engineering contractor in those assignments to which this Agreement applies, and shall give consultation and advice to CITY during the performance of the services. All services shall be performed under the direction of a professional engineer registered in the State of Missouri and qualified in the particular field.

SECTION 1 - AUTHORIZATION OF SERVICES

1.1 ENGINEER shall not undertake to begin any of the services contemplated by this agreement until directed in writing to do so by CITY. CITY may elect to authorize the PROJECT as a whole or in parts.

1.2 Authorized work may include services described hereafter as Basic Services or as Additional Services of ENGINEER.

SECTION 2 - BASIC SERVICES OF ENGINEER

2.1 General

2.1.1 Perform professional engineering services as set forth in Attachment A - "Scope of Basic Services," dated January 15, 2014.

2.1.2 The ENGINEER will designate the following listed individuals as its project team with responsibilities as assigned. The ENGINEER shall dedicate whatever additional resources are necessary to accomplish the PROJECT within the specified time frame but will not remove these individuals from the assigned tasks for any reason within the control of the ENGINEER without the written approval of the CITY.

Name and Title	Assignment
Tor Anderson, PE	Project Manager
Brian Petermann, PE	Air Quality Regulation Compliance Advisor
Jeff Arroyo, PE	AQC Technical Advisor
Ryan Zupon, PE	Project Engineer

All of the services required hereunder will be performed by the ENGINEER or under its supervision and all personnel engaged in the work shall be fully qualified and authorized or permitted under state and local law to perform such services.

None of the work or services covered by this Agreement shall be subcontracted without the prior written approval of the CITY and any work or services so subcontracted shall be subject to the provisions of this Agreement.

2.2 The ENGINEER shall furnish such periodic reports as the CITY may request pertaining to the work or services undertaken pursuant to this Agreement, the costs and obligations incurred or to be incurred, and any other matters covered by this Agreement.

2.3 The ENGINEER shall maintain accounts and records, including personnel, property and financial records, adequate to identify and account for all costs pertaining to the Agreement and any other records as deemed necessary by the CITY to assure proper accounting for all project funds. These records must be available to the CITY or its authorized representatives, for audit purposes, and must be retained for three (3) years after expiration or completion of this Agreement.

SECTION 3 - ADDITIONAL SERVICES OF ENGINEER

3.1 General

If authorized in writing by CITY, and agreed to in writing by ENGINEER, ENGINEER shall furnish or obtain from others Additional Services of the following types

which are not considered normal or customary Basic Services. The scope of Additional Services may include:

3.1.1 Financial Consultation
Consult with CITY's fiscal agents and bond attorneys and provide such engineering data as required for any bond prospectus or other financing requirements

3.1.2 Property Procurement Assistance
Provide consultation and assistance on property procurement as related to professional engineering services being performed.

3.1.3 Obtaining Services of Others
Provide through subcontract the services or data set forth in Attachment A.

3.1.4 Preliminary or final engineering design of capital facilities except as specifically identified herein.

3.1.5 Preparation of reports, data, application, etc., in connection with modifications to FEMA floodplain definition and/or mapping.

3.1.6 Extra Services
Services not specifically defined heretofore that may be authorized in writing by CITY.

SECTION 4 - RESPONSIBILITIES OF CITY

4.1 Provide full information as to CITY's requirements for the PROJECT.

4.2 Assist ENGINEER by placing at ENGINEER's disposal available information pertinent to the assignment including previous reports and other data relative thereto, including the items outlined in Attachment A - "Scope of Basic Services," dated January 15, 2014.

4.3 Guarantee access to and make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform his services under this Agreement.

4.4 Examine all studies, reports, sketches, estimates, Bid Documents, Drawings, proposals and other documents presented by ENGINEER and render in writing decisions pertaining thereto.

4.5 Provide such professional legal, accounting, financial and insurance counseling services as may be required for the PROJECT.

4.6 Designate Christian Johanningmeier, PE, Power Production Superintendent, as CITY's representative with respect to the services to be performed under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define CITY's policies and decisions with respect to materials, equipment, elements and systems to be used in the PROJECT, and other matters pertinent to the services covered by this Agreement.

4.7 Give prompt written notice to ENGINEER whenever CITY observes or otherwise becomes aware of any defect in the PROJECT.

4.8 Furnish approvals and permits from all governmental authorities having jurisdiction over the PROJECT and such approvals and consents from others as may be necessary for completion of the PROJECT.

4.9 Furnish ENGINEER data such as probings and subsurface explorations, with appropriate professional interpretations; property, boundary, easement, right-of-way, topographic and utility surveys; zoning and deed restriction; and other special data or consultations, all of which ENGINEER may rely upon in performing his services under this Agreement.

SECTION 5 - PERIOD OF SERVICE

5.1 This Agreement will become effective upon the first written notice by CITY authorizing services hereunder.

5.2 This Agreement shall be applicable to all work assignments authorized by CITY subsequent to the date of its execution and shall be effective as to all assignments authorized.

5.3 Services shall be started within 10 calendar days of Notice to Proceed and completed within 610 calendar days from the issuance of the Notice to Proceed. CITY shall have the right to establish performance times for individual phases or elements of the PROJECT by delivering a written schedule setting out the performance times to the ENGINEER.

SECTION 6 - PAYMENTS TO ENGINEER

6.1 Amount of Payment

6.1.1 For services performed, CITY shall pay ENGINEER the sum of amounts determined as follows:

6.1.1.1 For time spent by personnel, payment at the hourly rates indicated in the "Schedule of Hourly Labor Billing Rates" (attached). Such rates include overhead and

profit. The schedule is effective to December 31, 2014, and may be revised thereafter.

6.1.1.2 For outside expenses incurred by ENGINEER, such as authorized travel and subsistence, commercial services, and incidental expenses, the cost to ENGINEER.

6.1.1.3 For reproduction, printing, long-distance telephone calls, company vehicle usage, testing apparatus, computer services and computer-assisted drafting (CAD), amounts will be charged according to the ENGINEER's standard rates in effect at the time service is provided.

6.1.1.4 For professional services rendered by others as subcontractor(s) to ENGINEER such as surveying, real property descriptions, soil borings, subsurface investigations, laboratory testing, field quality control tests, progress photos, or other activities required or requested by CITY, will be billed at the cost to ENGINEER.

6.1.1.5 For time spent by outside individual professional consultants employed by ENGINEER in providing services to CITY, the cost to ENGINEER. Expenses incurred by such outside consultants in service to CITY shall be reimbursable in accordance with 6.1.1.2 above.

6.1.2 Total payment for Scope of Services and all other expenses and costs to the City under this agreement and described herein **shall not exceed $365,000.**

6.2 Payments

6.2.1 The ENGINEER shall submit an invoice for services rendered to the CITY not more than once every month. Upon receipt of the invoice and progress report, the CITY will, as soon as practical, pay the ENGINEER for the services rendered, provided the CITY does not contest the invoice, to the extent of ninety-five percent (95%) of the uncontested amount earned. Upon completion and acceptance of the final plans by the CITY, the five percent (5%) of these services retained by the CITY will be paid to the ENGINEER.

SECTION 7 - GENERAL CONSIDERATIONS

7.1 Insurance

7.1.1 ENGINEER'S INSURANCE: ENGINEER agrees to maintain, on a primary basis and at its sole expense, at all times during the life of this contract the following insurance coverages, limits, including endorsements described herein. The requirements contained herein, as well as CITY's review or acceptance of insurance maintained by ENGINEER is not intended to and shall not in any manner limit or qualify the liabilities or obligations assumed by ENGINEER under this contract

Commercial General Liability ENGINEER agrees to maintain Commercial General

Liability at a limit of liability not less than **$2,000,000** combined single limit for any one occurrence covering both bodily injury and property damage, including accidental death. Coverage shall not contain any endorsement(s) excluding nor limiting Contractual Liability or Cross Liability. If the contract involves any underground/digging operations, the general liability certificate shall include X, C and U (Explosion, Collapse and Underground) coverage.

Professional Liability ENGINEER agrees to maintain Professional (Errors & Omissions) Liability at a limit of liability not less than **$2,000,000** per claim and **$2,000,000** aggregate. For policies written on a "Claims-Made" basis, ENGINEER agrees to maintain a Retroactive Date prior to or equal to the effective date of this contract. In the event the policy is canceled, non- renewed, switched to an Occurrence Form, retroactive date advanced; or any other event triggering the right to purchase a Supplemental Extended Reporting Period (SERP) during the life of this contract, ENGINEER agrees to purchase a SERP with a minimum reporting period not less than two **(2)** years. The requirement to purchase a SERP shall not relieve ENGINEER of the obligation to provide replacement coverage.

Business Automobile Liability ENGINEER agrees to maintain Business Automobile Liability at a limit of liability not less than **$2,000,000** combined single limit for any one occurrence and not less than $150,000 per individual, covering both bodily injury, including accidental death, and property damage, to protect themselves from any and all claims arising from the use of the ENGINEER's own automobiles, and trucks; hired automobiles, and trucks; and automobiles both on and off the site of work. Coverage shall include liability for Owned, Non-Owned & Hired automobiles. In the event ENGINEER does not own automobiles, ENGINEER agrees to maintain coverage for Hired & Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation Insurance & Employers' Liability ENGINEER agrees to take out and maintain during the life of this contract, Employers' Liability and Workers' Compensation Insurance for all of their employees employed at the site of the work, and in case any work is sublet, the ENGINEER shall require the subcontractor similarly to provide Workers' Compensation Insurance for all the latter's employees unless such employees are covered by the protection afforded by the ENGINEER. Workers' Compensation coverages shall meet Missouri statutory limits. Employers' Liability minimum limits shall be $500,000 each employee, $500,000 each accident and $500,000 policy limit. In case any class of employees engaged in hazardous work under this contract is not protected under the Workers' Compensation Statute, the ENGINEER shall provide and shall cause each subcontractor to provide Employers' Liability Insurance for the protection of their employees not otherwise protected.

Excess/Umbrella Liability The above liability limits may be satisfied by any combination of primary and excess/umbrella liability policies.

Additional Insured ENGINEER agrees to endorse CITY as an Additional Insured with a

CG 2026 Additional Insured – Designated Person or Organization endorsement, or similar endorsement, to the Commercial General Liability. The Additional Insured shall read "City of Columbia."

Waiver of Subrogation ENGINEER agrees by entering into this contract to a Waiver of Subrogation for each required policy herein except professional liability. When required by the insurer, or should a policy condition not permit ENGINEER to enter into an pre-loss agreement to waive subrogation without an endorsement, then ENGINEER agrees to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy, which includes a condition specifically prohibiting such an endorsement, or voids coverage should ENGINEER enter into such an agreement on a pre-loss basis.

Certificate(s) of Insurance ENGINEER agrees to provide CITY with Certificate(s) of Insurance evidencing that all coverages, limits and endorsements required herein are maintained and in full force and effect. Said Certificate(s) of Insurance shall include a minimum thirty **(30)** day endeavor to notify due to cancellation or non-renewal of coverage. The Certificate(s) of Insurance shall name the City as additional insured in an amount as required in this contract and contain a description of the project or work to be performed.

Right to Revise or Reject CITY reserves the right, but not the obligation, to review and revise any insurance requirement, not limited to limits, coverages and endorsements based on insurance market conditions affecting the availability or affordability of coverage; or changes in the scope of work / specifications affecting the applicability of coverage. Additionally, the CITY reserves the right, but not the obligation, to review and reject any insurance policies failing to meet the criteria stated herein or any insurer providing coverage due of its poor financial condition or failure to operating legally.

7.1.2 HOLD HARMLESS AGREEMENT: To the fullest extent not prohibited by law, ENGINEER shall indemnify and hold harmless the City of Columbia, its directors, officers, agents and employees from and against all claims, damages, losses and expenses (including but not limited to attorney's fees) arising by reason of any negligent act or failure to act or willful misconduct, of ENGINEER, of any subcontractor (meaning anyone, including but not limited to engineers and consultants having a contract with ENGINEER or a subcontractor for part of the services), of anyone directly or indirectly employed by ENGINEER or by any subcontractor, or of anyone for whose acts the ENGINEER or its subcontractor may be liable, in connection with providing these services except as provided in this Agreement. This provision does not, however, require ENGINEER to indemnify, hold harmless or defend the City of Columbia from its own negligence, except as set out herein.

7.1.3 Professional Oversight Indemnification

The ENGINEER understands and agrees that CITY has contracted with ENGINEER based upon ENGINEER's representations that ENGINEER is a skilled professional and fully able to provide the services set out in this Agreement. In addition to

any other indemnification set out in this Agreement, ENGINEER agrees to defend, indemnify and hold and save harmless the CITY from any and all claims, settlements and judgments whatsoever arising out of the CITY's alleged negligence in hiring or failing to properly supervise the ENGINEER.

The insurance required by this Agreement shall include coverage which shall meet ENGINEER's obligations to indemnify the CITY as set out above and the CITY shall be named as co-insured for such insurance.

7.1.4 Consequential Damages

Notwithstanding any other provisions of this Agreement, and to the fullest extent permitted by law, neither the CITY nor the ENGINEER, their respective officers, directors, partners, employees, contractors, or subconsultants shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected in any way to the Project or this Agreement. This mutual waiver of consequential damages shall include, but is not limited to, loss of use, loss of profit, loss of business, loss of income, loss of reputation or any other consequential damages that either party may have incurred.

7.2 Professional Responsibility

7.2.1 ENGINEER will exercise reasonable skill, care, and diligence in the performance of its services and will carry out its responsibilities in accordance with customarily accepted good professional engineering practices. If the ENGINEER fails to meet the foregoing standard, ENGINEER will perform at its own cost, and without reimbursement from CITY, the professional engineering services necessary to correct errors and omissions which are caused by ENGINEER's failure to comply with above standard, and which are reported to ENGINEER within one year from the completion of ENGINEER's services for the PROJECT.

7.2.2 In addition, ENGINEER will be responsible to CITY for damages caused by its negligent conduct during its activities at the PROJECT site or in the field.

7.3 Estimates and Projections

Estimates and projections prepared by ENGINEER relating to construction costs and schedules, operation and maintenance costs, equipment characteristics and performance, and operating results are based on ENGINEER's experience, qualifications and judgment as a design professional. Since ENGINEER has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction contractor's procedures and methods, unavoidable delays, construction contractor's methods of determining prices, economic conditions, competitive bidding or market conditions and other factors affecting such estimates or projections, ENGINEER does not guarantee that actual rates, costs, performance, schedules, etc., will not vary from estimates and projections prepared by ENGINEER.

7.4 On-Site Services

PROJECT site visits by ENGINEER during construction shall not make ENGINEER responsible for construction means, methods, techniques, sequences or procedures; for construction safety precautions or programs; or for any construction contractor(s') failure to perform its work in accordance with the plans and specifications.

7.5 Changes

CITY shall have the right to make changes within the general scope of ENGINEER's services, with an appropriate change in compensation, upon execution of a mutually acceptable amendment or change order signed by an authorized representative of the CITY and the President or any Vice President of the ENGINEER.

7.6 Suspension of Services

Should CITY fail to fulfill its responsibilities as provided under Section 4 to the extent that ENGINEER is unduly hindered in his services or if CITY fails to make any payment to ENGINEER on account of its services and expenses within ninety (90) days after receipt of ENGINEER's bill therefor, ENGINEER may, after giving seven (7) days' written notice to CITY, suspend services under this Agreement until CITY has satisfied his obligations under this Agreement.

7.7 Termination

Services may be terminated by the CITY at any time and for any reason, and by the ENGINEER in the event of substantial failure to perform in accordance with the terms hereof by the CITY through no fault of the ENGINEER, by ten (10) days' notice. If so terminated, CITY shall pay ENGINEER all uncontested amounts due ENGINEER for all services properly rendered and expenses incurred to the date of receipt of notice of termination.

7.7.1 In the event of CITY's termination of the Agreement pursuant to the above section, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared under this Agreement, shall at the option of the CITY become its property.

Further, the ENGINEER shall not be relieved of any liability to the CITY for any damages sustained by the CITY by virtue of any breach of this Agreement by ENGINEER and the CITY may withhold any payments due the ENGINEER for the purpose of set-off until such time as the exact amount of damages to the CITY, if any, is determined.

7.8 Publications

Recognizing the importance of professional development on the part of ENGINEER's employees and the importance of ENGINEER's public relations, ENGINEER may prepare publications, such as technical papers, articles for periodicals, and press releases, pertaining to ENGINEER's services for the PROJECT. Such

publications will be provided to CITY in draft form for CITY's advance review. CITY will review such drafts promptly and will provide comments to ENGINEER. CITY may require deletion of proprietary data or confidential information from such publications but otherwise will not unreasonably withhold its approval. The cost of ENGINEER's activities pertaining to any such publication shall be paid entirely by ENGINEER.

7.9 Nondiscrimination

During the performance of this Agreement, ENGINEER agrees to the following:

7.9.1. ENGINEER shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, disability, or national origin. ENGINEER shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. ENGINEER agrees to post notices in conspicuous places, available to employees and applicants for employment.

7.9.2 ENGINEER shall, in all solicitation or advertisements for employees placed by or on behalf of ENGINEER, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, disability, or national origin.

7.9.3 ENGINEER shall comply with all provisions of State and Federal Laws governing the regulation of Equal Employment Opportunity including Title VI of the Civil Rights Act of 1964.

7.10 Successor and Assigns

CITY and ENGINEER each binds himself and his successors, executors, administrators and assigns to the other party of this Agreement and to the successors, executors, administrators and assigns of such other party, in respect to all covenants of this Agreement; except as above, neither CITY nor ENGINEER shall assign, sublet or transfer his interest in the Agreement without the written consent of the other.

7.11 Rights and Benefits

ENGINEER's services will be performed solely for the benefit of the CITY and not for the benefit of any other persons or entities.

7.12 Compliance with Local Laws

ENGINEER shall comply with all applicable laws, ordinances and codes of the state and city.

7.13 Law; Submission to Jurisdiction Governing.

This Contract shall be governed by, interpreted and enforced in accordance with the laws of the State of Missouri and/or the laws of the United States, as applicable. The venue for all litigation arising out of, or relating to this Contract Document, shall be Boone County, Missouri or the United States Western District of Missouri. The parties hereto irrevocably agree to submit to the exclusive jurisdiction of such courts in the State of Missouri and waive any defense of forum non conveniens

7.14 Employment of Unauthorized Aliens Prohibited

7.14.1 ENGINEER agrees to comply with Missouri State Statute section 285.530 in that they shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri.

7.14.2 As a condition for the award of this contract ENGINEER shall, by sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. ENGINEER shall also sign an affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services.

7.14.3 ENGINEER shall require each subcontractor to affirmatively state in its contract with ENGINEER that the subcontractor shall not knowingly employ, hire for employment or continue to employ an unauthorized alien to perform work within the state of Missouri. ENGINEER shall also require each subcontractor to provide ENGINEER with a sworn affidavit under the penalty of perjury attesting to the fact that the subcontractor's employees are lawfully present in the United States.

7.15 No Waiver of Immunities

In no event shall the language of this Agreement constitute or be construed as a waiver or limitation for either party's rights or defenses with regard to each party's applicable sovereign, governmental, or official immunities and protections as provided by federal and state constitutions or laws.

7.16 Entire Agreement

This Agreement represents the entire and integrated Agreement between ENGINEER and CITY relative to the Scope of Services herein. All previous or contemporaneous agreements, representations, promises and conditions relating to ENGINEER's services described herein are superseded.

[SIGNATURES ON FOLLOWING PAGE]

CITY OF COLUMBIA, MISSOURI

By: _____
Mike Matthes, City Manager

ATTESTED BY:

_____
Sheela Amin, City Clerk

APPROVED AS TO FORM:

_____
Nancy Thompson, City Counselor

CERTIFICATION: I hereby certify that the above expenditure is within the purpose of the appropriation to which it is charged, Account No. 551-7110-881-49-90 EL0183, and that there is an unencumbered balance to the credit of such appropriation sufficient to pay therefor.

_____
Director of Finance AS 3/4/14

ENGINEER

By: _____
(Name/Title) John W. Brown, Jr
Chairman/CEO

By: _____
(Name/Title)

Attachment A - Scope of Services

City of Columbia, Missouri

Proposal
for
Engineering Services for Boiler No. 8
NO_x Reduction Project

January 15, 2014

Sega Proposal No. 337Q-13150, Rev. 1

ENGINEERING & TECHNICAL SERVICES

SCOPE OF SERVICES

Sega Inc. (Sega) will provide permitting, preliminary engineering and detailed design engineering support as the Owner's Engineer for the City of Columbia, Water and Light (CWL). This support will bring Boilers 6, 7, and 8 at the municipal power plant into compliance with certain current and future air quality regulations. These regulations include the National Emission Standards for Hazardous Air Pollutants (NESHAP) implemented for fossil fueled boilers (both industrial and utility) and anticipated new Federal regulations to replace the Clean Air Interstate Rule (CAIR) and Cross-State Air Pollution Rule (CSAPR).

OVERVIEW

These support services are grouped into three (3) phases:

Phase I: Permitting and Preliminary Engineering Support for Boilers 6, 7, and 8.

Phase II: Develop Technical Specifications and Procure Equipment for Boiler 8.

Phase III: Detailed Design and Project Implementation Support for Boiler 8.

For the regulatory compliance and permitting support scope, Sega will assist CWL in developing compliance options, selecting the most advantageous overall compliance plan, and permitting the required operational and/or physical modifications for Boilers 6, 7, and 8 (included in Phase I). For the preliminary engineering design support scope, this project will consist of assisting CWL with determining the technical feasibility, costs, and schedule of installing new emissions control equipment on Boilers 7 and 8 (also included in Phase I), with specifying and procuring the major equipment for Boiler 8 (Phase II), and with the design and implementation of NO_x reduction technologies for Boiler 8 (Phase III).

Further details on the phased approach and anticipated execution strategy are provided in the following sections.

Phase I: Permitting and Preliminary Engineering Support (Boilers 6, 7, and 8)

Sega will provide the following Phase I Scope of Services:

Item 1 – Develop Compliance Plan Options and Assist in Selection. Assist CWL in developing compliance options for Boilers 6, 7, and 8 and selecting the most advantageous overall plan for the three (3) boilers.

Item 2 – Permit Boiler 8 Modifications. Assist CWL in obtaining an air construction permit associated with potential CO increases resulting from NO_x reduction implementation on Boiler 8.

Item 3 – Permit Boiler 7 Modifications. If part of the overall compliance plan, assist CWL in obtaining an air construction permit for implementing needed maintenance and NESHAP compliance retrofits. This also includes the permitting of possible modifications to burn up to 100% biomass.

Item 4 – Permit Facility as an Area Source under NESHAP. If part of the overall compliance plan, assist CWL in obtaining an air permit which would limit Boiler 6 and/or 7's annual HAP emissions to reclassify the facility as an Area Source.

Item 5 – Permit Boiler 6 as Limited Use under NESHAP. If part of the overall compliance plan, assist CWL in obtaining an air permit which would limit Boiler 6 annual operation such that it would be classified "limited use."

Item 6 – Visit Facility and Technical Review. Visit the Municipal Power Plant to collect information, meet with plant staff and discuss previous study efforts.

Item 7 – Provide Preliminary Engineering Support. Develop total installed cost estimates to bring Boiler 7 into NESHAP emissions compliance and Boiler 8 into NO_x compliance and research the feasibility of upgrading the existing Boiler 8 controls and air heater with a tubular air heater or an economizer. This also includes preliminary engineering support for the possible modification of Boiler 7 to burn up to 100% biomass while maintaining the capability of burning some coal.

The following provides a more detailed description of the above Sega scope. The items are not intended to be performed independently or in sequential order.

Item 1 – Develop Compliance Options for Boilers 6, 7, and 8 and Assist in Selection

Sega will:

1. Work with CWL in developing compliance options for Boilers 6, 7, and 8 and selecting the most advantageous for the three (3) boilers. The compliance options will consider the following:
    a. Retrofit for NO_x reduction on Boiler 8.
    b. Possible Boiler 7 retirement, retrofit for HAP emission reductions, or conversion to burn up to 100% biomass.
    c. Implementation of some substantial maintenance projects on Boilers 7 and 8.
    d. Possible Boiler 6 retirement or its restriction to "limited use" under NESHAP.
    e. Possible reclassification of the facility to an "area source" under NESHAP.
2. Consider the following in the development and selection of compliance options:
    a. Emission limits associated with "major source" versus "area source" classification.
    b. Relative feasibility and cost of emissions control equipment.

c. Permitting requirements (schedule, modeling, permit conditions) for implementing the compliance options.

d. Interaction of Boiler 6, 7, and 8 permitting and schedule and whether they should be permitted simultaneously.

e. Possible need to disconnect Boiler 7 steam from the steam header connected to steam turbine generator Unit 8. The initial assumption is that Boiler 7 is subject to Industrial Boiler MACT and not EGU MATS because it is less than 25-MW equivalent; and thus, does not need to be disconnected from the steam header connected to steam turbine generator Unit 8.

f. Assumption that modification of Boiler 7 to allow up to 100% biomass will still allow some coal firing up to the maximum amount allowed to maintain facility as an area source of HAPS.

g. Possible future addition of reciprocating engine capacity at the plant.

h. Possible future impact of NO_2 national ambient air quality standard.

3. Describe each compliance option and provide estimated costs, schedule, and advantages, and disadvantages.

Item 2 – Permit Boiler 8 Modifications

(Note that this scope defines the permitting of Boiler 8 modifications alone. However, as noted in the other items, this permitting process may be combined with one or more other items such as Boiler 7 modification and/or facility limitations to be classified as an area source. The additional permitting scopes for these items are included in the other items below.)

Making modifications to reduce boiler NO_x emissions can lead to the coincident increase in CO emissions. Because of this increase, an air construction permit is required from the Missouri Department of Natural Resources (MDNR). Sega's proposed services are based on following a "major" air permitting process under the Missouri and federal Prevention of Significant Deterioration (PSD) permitting regulations. This means that the potential annual emissions increase of CO is assumed to be potentially greater than 100 tons per year (tpy) and the permitting would require an assessment of best available control technology (BACT) for CO emissions, a dispersion modeling air quality impact analysis of

CO increases, and draft permit public/EPA review process. (If CO emission increases can be limited to under the major source thresholds, then this permitting would be significantly reduced.)

Our air permitting services would proceed in concert with the assessment of NO_x emission control options and degrees of reduction anticipated for Boiler 8. Air permitting requirements and ramifications associated with NO_x reduction options would be explained. The actual air permitting process would be initiated once the NO_x reduction option to be implemented is decided.

Sega will:

1. Provide CWL air permitting compliance ramifications of the NO_x reduction alternatives considered for Boiler 8. Considerations include permitting schedule, acceptable CO permit emission limits, annual operating limits, and emissions monitoring, testing, and reporting requirements. The selected emission reduction option and associated boiler emission levels will move forward through the air permitting process.

2. Prepare an air permit application package for CWL's submittal to MDNR. The application will consist of air quality dispersion modeling of the anticipated new CO emission levels, a BACT analysis of the proposed CO emissions, regulatory applicability analysis, MDNR application forms, and application fee (Sega's scope does not include payment of the application fee). To prepare the application package Sega will:

    a. Conduct an air quality dispersion modeling analysis of the CO emissions increase associated with the NO_x emission reduction option selected. The modeling analysis will be performed by SCS Engineers (formerly Aquaterra) who will be subcontracted to and supervised by Sega. The analysis will consist of the following actions:

        1) Prepare an air quality analysis protocol document for submittal to MDNR review prior to conducting the analysis. The protocol will describe the proposed project, requirements for conducting dispersion modeling, selected dispersion model(s), modeling options, meteorological data, receptor grids, and special considerations.

        2) Following the procedures defined in the protocol, as revised by MDNR review, conduct the dispersion modeling of CO impacts in the vicinity of the Municipal Power Plant to demonstrate compliance with acceptable air quality impact levels resulting from the NO_x reduction project. The scope assumes that the maximum

predicted CO impact levels will be below the "significance" level and therefore no additional "refined interactive" level modeling will be required.

3) Prepare text, tables, and figures describing the dispersion modeling analysis and results.

b. Conduct a BACT analysis of CO emissions for similar types of boilers firing natural gas. The analysis will consider the federal on-line listing in the BACT/RACT/LAER Clearinghouse, methods to reduce CO emissions, and typical CO and NO_x emissions resulting from natural gas-fired boilers of this size.

c. Prepare a regulatory applicability and compliance assessment of all federal and state air quality regulations and requirements which apply to the compliance option selected for modification of Boiler 8.

d. Prepare MDNR air permit application forms and determine for CWL the amount required for the application fee.

e. Compile an air permit application package which consists of a submittal letter (from CWL), fee (from CWL), application forms, and associated text document of the air dispersion modeling analysis, BACT analysis, regulatory applicability analysis, and supporting drawings, tables, figures, and modeling files.

f. Incorporate CWL review comments, additions, and corrections and prepare eight (8) copies of the application package. Assist CWL in the submittal of the application package(s) to the MDNR.

g. As noted above, the MDNR may require the permitting process to also consider other pollutants. If this is the case, this scope item would need to be expanded through a change order.

3. Assist CWL in the post-application review and submittal phase of the project. Sega will:

a. Respond to MDNR permit application review questions and requests. This will include review of MDNR written requests and follow-up telephone calls to discuss the issues, and transmittal of responses to the MDNR until the application is deemed "complete."

b. Review a preliminary draft air permit for accuracy, appropriate conditions of emission limits, operating limits, testing, monitoring, and reporting requirements. Discuss with CWL and prepare comments, corrections, and revisions and respond to MDNR accordingly.

c. Review the official draft air permit prepared by MDNR issued for the thirty (30) day public/EPA review period, to determine if the requested

revisions to the preliminary draft permit have been incorporated. Discuss with CWL and prepare responses to MDNR.

d. Be present at the public hearing if one is held by the MDNR. No preparation and participation is anticipated other than attendance and taking notes if public comments are received.

e. Assist CWL in responding to MDNR comments received during the thirty (30) day public review period and at the hearing. The MDNR is required to respond to the comments, and typically requests the applicant to assist in preparing these responses.

f. Review the official final air permit prepared by MDNR issued after the public review period, to determine if the requested revisions to the draft permit have been satisfactorily incorporated. Discuss with CWL and prepare responses to MDNR if necessary.

Item 3 – Permit Boiler 7 Modifications

If Boiler 7 is to remain in operation (not retired) and the facility is classified as a "major source," the retrofit of Boiler 7 with new emission reduction equipment and performing substantial (non-routine) maintenance projects may be viewed by state and federal regulatory authorities as modifications which may need to go through an air permitting process to receive authorization to proceed with one or more planned projects. Some of the maintenance projects may include a new grate and feed system to continue burning a blend of coal and biomass and potentially burn up to 100% biomass in the future. Although these projects on their own may not result in increased actual emissions, an air construction approval is required from the MDNR which will ensure that the future post-project annual emissions will not be significantly greater than historical actual emissions.

Sega's proposed services are based on following a "minor" air permitting process under the Missouri and federal PSD permitting regulations. This means that the potential annual emissions increase of all pollutants (including CO_2) will be held to less than significant levels. The permitting process will not require a dispersion modeling or BACT analysis and will amount to an assessment of past annual emissions compared to future projected emissions. This permitting process could be performed at the same time and be included with the Boiler 8 NO_x reduction permitting in Item 2, above. Together, these two (2) efforts could be presented to the MDNR as the Boilers 7 and 8 Emissions Reduction Project. The

actual air permitting process would be initiated once the specific Boiler 7 emission reduction project is defined in Item 1, above.

Sega will:

1. Obtain a description of the Boiler 7 maintenance projects and assess whether they would constitute a modification and require permitting. This would include describing the work in terms of extent, cost, schedule, and whether it is "routine". Determine whether any of the project impact emissions.

2. Obtain a description of the Boiler 7 emission reduction projects planned. The scope of work and costs associated with the Boiler 7 emission reduction project will be defined in Item 1, above.

3. Prepare an air permit application package for CWL's submittal to MDNR. As an alternative, the Boiler 7 modification permitting will be included with the Boiler 8 NO_x reduction permitting described in Item 2, above. The application will consist of a description of the major maintenance and emission reduction projects, schedule for implementation, past annual emissions, future projected emissions, comparison of the emission changes to the major PSD permitting thresholds, application forms, and application fee. (Sega's scope does not include payment of the application fee). To assist CWL in the preparation of the application package, Sega will:

    a. Prepare a regulatory applicability and compliance assessment of all federal and state air quality regulations and requirements which apply to the modification of Boiler 7. (If Boiler 7 modification permitting is combined with permitting of Boiler 8, the balance of this scope will be included with Item 2, above.)

    b. Prepare MDNR air permit application forms and estimate for the City the amount required for the application fee.

    c. Compile an air permit application package which consists of a submittal letter (from CWL), fee (from CWL), application forms, associated text document describing the project and the emissions analysis, regulatory applicability analysis, and supporting drawings, tables, and figures.

    d. Incorporate CWL review comments, additions, and corrections and prepare eight (8) copies of the application package. Assist CWL in the submittal of the application package(s) to the MDNR.

4. Assist CWL in the post-application review and submittal phase of the Project. Sega will:

a. Respond to MDNR permit application review questions and requests. This will include review of MDNR written requests and follow-up telephone calls to discuss the issues, and transmittal of responses to the MDNR until the application is deemed "complete."

b. Review a preliminary draft air permit for accuracy, appropriate conditions of emission limits, operating limits, and testing, monitoring, and reporting requirements. Discuss with CWL and prepare comments, corrections, and revisions and respond to MDNR accordingly.

c. Review the official draft air permit prepared by MDNR issued for the thirty (30) day public review period, to determine if the requested revisions to the preliminary draft permit have been incorporated. Discuss with CWL and prepare responses to MDNR.

d. Assist CWL in responding to MDNR comments received during the thirty (30) day public review period. The MDNR is required to respond to the comments, and typically requests the Applicant to assist in preparing these responses.

e. Review the official final air permit prepared by MDNR issued after the public review period, to determine if the requested revisions to the draft permit have been satisfactorily incorporated. Discuss with CWL and prepare responses to MDNR if necessary.

Item 4 – Permit Boiler 6 as Limited Use under NESHAP

Units that are "limited use" under the Boiler NESHAP are not subject to the emission limits. If CWL accepts a permit condition which limits the annual operation of Boiler 6 to less than 10% annual capacity factor, then the unit would be classified "limited use" and would avoid the emission limits of a coal fired boiler in the Boiler NESHAP under the major source or area source rule. Sega's proposed services for this item would be to assist CWL in obtaining this limited use classification through a permit condition. This permitting process could proceed with the permitting of Boilers 7 and 8 modifications, as part of either of those permitting processes. In this way, CWL could take "credit" for Boiler 6 annual emission reductions as a result of the future annual capacity factor limitation of 10%. This credit would be included in the total plant emission change calculation and could be used to help avoid PSD permitting of Boiler 8 CO emissions. The actual air permitting process would be initiated once the appropriate compliance options are decided in Item 1, above.

Sega will:

1. Provide CWL calculations of the annual fuel use limitations. This would apply if Boiler 6 were limited to 10% annual capacity factor and when that limit would need to be initiated to meet NESHAP requirements to comply as a limited use boiler.

2. Prepare a calculation of the past actual Boiler 6 emissions compared to the future projected annual emissions with the 10% annual capacity factor limitation in place. This will provide an indication of the amount of "credit" CWL can apply to the Boiler 7 and 8 modification permitting calculations.

3. Include proposed operational limitations in the air permit application(s) for Boiler 7 and/or 8. This will include the monitoring method of how CWL will track annual fuel use by Boiler 6.

4. Review proposed permit conditions contained in the draft permit issued by MDNR, and provide comments as needed.

Item 5 – Permit Facility as an Area Source under NESHAP

The emission limitations for boilers at area sources of HAPs are less stringent than for boilers at major sources of HAPs. If CWL accepts a permit condition which limits the annual emissions of the facility to less than 10 tpy of any single HAP and less than 25 tpy of all HAPs, then the facility would be subject to the area source rule instead of the major source rule which is currently the case. The total emissions must be calculated from all emission sources under the CWL's Title V operating permit. This would include Boiler 6 if it is permitted with a 10% annual capacity factor limitation as detailed in Item 4, above. Otherwise, it would be left off of the calculation and no operation would be allowed after the NESHAP compliance date. Sega's proposed services for this item would be to assist CWL in calculating the future annual emissions of HAPs and determining options for emissions reduction and/or operational limitations which would be required to achieve area source status. The services would also include assisting CWL in obtaining this area source classification through permit conditions. This permitting process could proceed with the permitting of Boiler 6, 7, and 8 modifications, as part of any of those permitting processes or all combined. In this way, CWL could take "credit" for annual emission reductions as a result of any reductions in future annual operation or emissions. This credit would be included in the total plant emission change calculation and could be used to help avoid PSD

permitting of Boiler 8 CO emissions. The actual air permitting process would be initiated once the appropriate compliance options are decided in Item 1, above.

Sega will:

1. Provide CWL calculations of the annual HAPs emissions under the current permit conditions and also for various options to reduce annual HAPs to below the major source thresholds. This calculation would incorporate future emission levels of Boiler 7 to meet the NESHAP, future emission levels of Boiler 8 after the NO_x reduction modifications, future emission levels of Boiler 6 at a 10% annual capacity factor limitations (or retirement), as well as the potential annual emissions from all other sources listed in CWL's Title V permit.

2. Assist CWL in determining the advantages and disadvantages of taking additional limitations to become an area source of HAPs.

3. If applicable, include proposed operational limitations in the air permit application(s) for Boiler 7 and/or 8. This will include the monitoring method of how CWL will track annual fuel/hours/emission limits to comply with the area source classification.

4. Review proposed permit conditions contained in the draft permit issued by MDNR, and provide comments as needed.

Item 6 – Visit Facility and Technical Review

Sega will:

1. Schedule a site visit to CWL's Municipal Power Plant. Five (5) Sega engineers and two (2) Enerfab construction specialists (optional) will attend the meeting. The following are the objectives of the on-site visit:

    a. Discuss objectives, assumptions, and constraints.

    b. Obtain site specific drawings and equipment information.

    c. Collect unit information, emissions data, performance data, and fuel data.

    d. Walk-down site with plant engineers.

    f. Discuss constructability issues, potential interferences, and equipment lay-down areas.

    g. Collect outage date information and expected project durations.

h. Discuss results from previous environmental and condition assessment studies.

2. Review the April 2012 Boiler 8 NO_x Reduction Study, the March 2011 Boilers 6 and 7 Biomass Combustion and Multi-P Emissions Study, the 2011 Condition Assessment for Boilers 6 and 7, and other recent environmental investigations and discuss with the CWL plant staff. However, our level of familiarity with some of these projects will reduce the effort required on this task and will ultimately increase the continuity of the subsequent engineering and construction activities with the findings of the previous studies.

Item 7 – Provide Preliminary Engineering Support

Sega will:

1. Prepare budgetary cost estimates for the equipment and installation to facilitate the development of a total installed cost estimate and a construction phasing plan to reduce NO_x emissions for Boiler 8. The total installed cost estimate will include an estimated balance-of-plant and other indirect costs. Sega is sensitive to CWL's budget constraints and will assist in developing a schedule that addresses these concerns. The construction phasing plan will also include a schedule of permitting requirements. The construction phasing plan will include consideration of plant operating constraints, constructability concerns, and schedule requirements.

2. Prepare budgetary cost estimates for the equipment and installation to facilitate development of a total installed cost estimate to bring Boiler 7 into NESHAP compliance, if necessary. The total installed cost estimate will include an estimated balance-of-plant and other indirect costs.

3. Review the plant Yokagowa combustion control system (CCS) and the Siemens APACS Quad-Log burner management system (BMS) for Boiler 8 to determine the extent of the expected controls integration effort. As part of this review, Sega will review the existing CCS and BMS systems and make recommendations to CWL (based on the new NO_x reduction equipment to be installed) to ensure the updated controls are in compliance with the NFPA 85 requirements. Patching the existing controls, upgrading to new Yokagowa control hardware and software, and replacing the existing controls with a new control system supplier will be investigated.

4. Look into the feasibility of removing the existing air heater, which is a poor design that is in bad operating condition. Sega will investigate whether replacing the existing air heater with a new economizer on Boiler 8 will cause extraction steam problems at the turbine and excessive boiler feed water temperatures. Boiler feed water temperature, including its effect on boiler efficiency with an economizer, and the condition/service of the high pressure feed water heaters are issues that will require a technical

investigation before deciding to install a new economizer. During the previous Boiler 8 NO_x Reduction Study, it was not clear whether the feed water heaters were in service since the original boiler performance data sheets noted a feedwater temperature of 383 F and the feedwater temperatures during the January 2012 boiler NO_x emissions testing ranged from 234 F to 254 F. This discrepancy indicated that the feed water heaters had been valved out or placed out of service. The condition of the feedwater heaters and whether they are placed in or out of service will determine the lower limit of the economizer outlet flue gas temperature and whether Boiler 8 could achieve an improvement in efficiency. A feedwater temperature of 234 F can easily work with an economizer. A feedwater temperature of 383 F would require an air heater to reduce the flue gas temperature to a typical value of 300 F.

Phase II: Develop Technical Specifications and Procure Equipment (Boiler 8)

The scope of this phase is described below in the following tasks:

1. Sega will develop a technical specification for the procurement of the NO_x reduction equipment to be installed on Boiler 8. As part of the specification development, Sega will consolidate and present all necessary technical information for inclusion in the request for proposals. Sega's technical specification will be combined with CWL's commercial terms. Sega can assist in distributing the request for proposal package, issuing any necessary addenda, and addressing bidder questions to whatever level CWL prefers.

2. After receiving proposals, Sega will assist CWL in the review and technical evaluation of the bids. Sega will prepare a scoring matrix, or "bid tab," to document the evaluation of the bids. Sega will provide a letter of recommendation to CWL. To whatever level CWL prefers, Sega is capable of assisting in conforming the bid to the final contract and awarding the project.

3. If CWL elects to bid out the installation work instead of utilizing their on-site maintenance contractor, Sega will prepare a specification for the installation scope, assist CWL in evaluating the proposals, and support CWL in awarding the project.

Phase III: Detailed Design and Project Execution Support (Boiler 8)

The scope of this phase is described below in the following tasks:

1. Develop and maintain the master project schedule. The schedules provided by the equipment supplier and the installation contractor will be incorporated into the overall project schedule.

2. Create and maintain a Project Design Manual (PDM), if requested by CWL, that will include the following items:

   a. Description of services and responsibilities of Sega, the Contractor, and CWL.

   b. Project administrative procedures.

   c. Basic design criteria.

   d. Systems design criteria and systems descriptions.

   e. Project drawings, lists, and schedules.

   f. Overall project schedule.

   g. Contract packages including technology details from suppliers.

3. Review existing plant drawings and interview plant personnel to identify the location of existing underground utilities and other potential interferences. Sega will provide technical recommendations for additional investigative techniques, if deemed necessary.

4. Provide technical support to CWL for assistance in obtaining the construction and environmental permits.

5. Manage contracts by being the liaison between CWL and the equipment suppliers and construction contractor. The contract management scope will include review of submittals, expediting materials or services as necessary, maintain communications with contractors, and answering Requests for Information (RFIs).

6. Perform detailed design engineering to include documents, drawings, specifications, and other necessary information to install the NO_x emissions reduction equipment on Boiler 8. The detailed design will incorporate the equipment supplier's drawings and other design documents and will be issued for CWL review and issued for construction following CWL's comments and approval.

7. Integrate the Boiler 8 NO_x reduction equipment into the plant Yokagowa and Siemens controls, based on the findings and recommendations from Phase I.

8. Provide "Issue for Construction" and "Conforming to Construction Records" drawings and documents. The "Conforming to Construction Records" documents will be prepared upon receipt of records from the installing Contractor that differ from the original construction documents.

9. Provide support for obtaining any necessary post construction permits. If required, Sega will prepare reports to support the required permits.

10. Provide emissions testing plans and support, as necessary, to verify equipment performance and document results.

Sega regularly provides resident engineering and technical services on projects. Our proposal team includes a resident field service engineer that has experience on similar or related projects. Typical construction oversight services provided by Sega include field construction observation and reporting, contractor progress evaluation, pay request and change order review, coordination between contractors, certifications of acceptance or completion punch list resolution, recommendations for final acceptance, and contract closeout. Construction contractors will be required to maintain up-to-date as-build records on the site.

SCHEDULE

Sega's proposed schedule for assisting CWL with their NO_x reduction project on Boiler 8 is provided in the summary table below. A brief discussion of the rationale used in developing this schedule is provided on the following page. The final page of this section presents the milestone schedule in a Gantt format. The key milestones associated with the three (3) phases of work are summarized as follows:

Milestone Tasks	Milestone Dates
Phase I(a) – Preliminary Engineering Support for Boilers 6, 7 and 8	
Notice-To-Proceed (NTP) from CWL for Phase I Support	March 17, 2014
Project Kick-off Meeting and Site Visit	Week of March 24
Sega Review of Previous Boilers 6, 7, and 8 Studies	April 11, 2014
Data Collection and Design Basis Development Complete	April 18, 2014
Begin Analysis of DCS and Air Heater/Economizer for Boiler 8	April 18, 2014
Develop Environmental Compliance Options for Boilers 6, 7, and 8	May 2, 2014
Prepare Draft of Environmental Compliance Plan for Boiler 7	May 16, 2014
Prepare Draft of Environmental Compliance Plan for Boiler 8	May 23, 2014
Perform Analysis of DCS and Air Heater/Economizer for Boiler 8 and Submit to CWL	May 30, 2014
Receive Consolidated Comments from CWL for Boilers 7 and 8	June 13, 2014
Issue Final Compliance Plan and Costs for Boilers 7 and 8	June 20, 2014
Phase I(b) – Permitting Support for Boilers 6, 7 and 8	
NTP from CWL for Phase I Support	March 17, 2014
Project Kick-off Meeting and Site Visit	Week of March 24, 2014
Permitting Review and Make Recommendations	May 30, 2014
Begin Air Permit (Assuming PSD for Boiler 8 CO Increase)	June 2, 2014
Prepare and Submit Permit Application to CWL	July 18, 2014
Receive Consolidated Comments from CWL on Permit Application	August 1, 2014
Prepare and Submit Air Permit To MDNR	August 15, 2014
MDNR Permit Review and Public Comment (Estimated)	February 6, 2015
Receive Air Permit From MDNR (Estimated)	April 3, 2015
Phase II – Develop Technical Specifications and Procure Equipment for Boiler 8	
NTP from CWL for Phase II Scope of Work	June 20, 2014
Prepare Draft Technical Specifications	June 23, 2014
Issue Draft Technical Specification Issued To CWL	August 1, 2014
Receive Consolidated Comments From CWL	August 15, 2014
"For Bid" Specification Issued by CWL	August 29, 2014
Bids Prepared and Submitted to CWL	October 17, 2014
Evaluate Bids and Letter of Recommendation Issued	October 31, 2014

Milestone Tasks	Milestone Dates
CWL Selects Supplier and Issues PO to Procure Equipment	November 14, 2014
Phase III – Detailed Design and Project Implementation Support for Boiler 8	
NTP from CWL for Phase III Scope of Work	October 17, 2014
Project Construction Schedule Developed and Issued	November 14, 2014
Project Design Manual Developed and Issued	November 14, 2014
Review Existing Plant Drawings and Identify BOP Interfaces	December 19, 2014
Shop Drawings Received from Equipment Suppliers (Estimated)	January 5, 2015
Begin Detailed Balance-of-Plant (BOP) Design	December 19, 2014
Prepare and Submit Issued for Construction (IFC) Structural, Mechanical, Electrical and Controls Drawing Packages	April 3, 2015
Installation Contractor Begins Construction	April 3, 2015
Outage Begins (Estimated)	June 19, 2015
Commission Boiler 8 NOx Reduction System	August 14, 2015
Provide Emissions Testing Support	September 11, 2015
Prepare and Issue Conforming to Construction Record Documents	October 2, 2015

Based on a receipt of a notice of award and purchase order by March 17, 2014, Sega would schedule the project kick-off meeting at the plant during the week of March 24, 2014. Based on the Scope of Services described in this proposal, Sega developed a Phase I work schedule of approximately twelve (12) weeks duration to provide preliminary engineering services for submittal of a compliance plan and the estimated total installed project costs to CWL. We have estimated issuing our final recommendations and costs for Boiler 7 and 8 to CWL by June 20, 2014. The permitting support associated with Phase I work is estimated to take about twelve (12) months (nine (9) months of actual air permitting services) since this scope of work involves interfacing with the MDNR and may require a public comment period of a couple months. We have estimated receiving an air permit for the Boiler 8 NO_x Reduction Project by April 3, 2015. Construction activities will not be able to start until an air permit has been received by CWL.

The Phase II work associated with specifying and procuring the major equipment is estimated to take five (5) months. Assuming Sega receives a NTP from CWL to begin Phase II work by June 20, 2014, we have estimated that CWL will be able to issue a PO to the successful equipment suppliers by November 14, 2014. No additional time has been included for the CWL board or city council to approve the procurement of the equipment.

The work for Phase III is inherently less well-defined since the project scope has not yet been fully defined, but a potential schedule has been presented. Sega has assumed the installation of the NO_x reduction equipment and other major maintenance items (i.e., DCS upgrade and new tubular air heater or economizer) over a single outage in the summer of 2015. The estimated duration of Phase III work is estimated to take one full year (October 2014 through October 2015). The outage is estimated to take eight (8) weeks and to begin on June 19, 2015 and end on August 14, 2015.

Throughout the execution of this project, Sega will arrange a bi-weekly telephone conference with CWL to review data requests, address CWL's questions, and update the status of our progress. As portions of the work are completed in draft form, they will be submitted to CWL for comment.

This schedule is preliminary, and presented only to provide information on the type of effort associated with the Boiler 8 NO_x Reduction Project. This milestone schedule can be adjusted based on the needs of CWL.

PRICING

Sega proposes to provide permitting and engineering services to CWL on a time-and-materials basis, per our attached Rate Sheet for Professional Services, for an estimated fee of $365,000. The breakdown for this fee by each phase of work is as follows:

Phase 1: Permitting and Preliminary Engineering Support (Boilers 6, 7, and 8)	
• Permitting Support:	$78,000
• Preliminary Engineering Support:	$44,000
Phase II: Develop Technical Specifications/Procure Equipment (Boiler 8)	$58,000
Phase III: Detailed Design and Project Execution Support (Boiler 8)	$185,000
Total Estimate Cost (All Phases)	**$365,000**

If a fixed lump-sum price is preferred by CWL for Phase I activities, please let us know and we can offer a fixed price fee alternative. Since the scope of work (i.e., equipment to be procured, designed, and installed) is not fully defined at this time, we are unable to offer a fixed price fee alternative for Phases II and II.

Sega has not included any man-hours and costs associated with providing on-site coordination and observation support to CWL during the construction phase of the project. We have assumed this will be handled by the plant staff and Enerfab. Also, Sega has not included any man-hours and costs associated with start-up, checkout, and commissioning. However, we have included man-hours and costs associated with subcontracting the dispersion modeling to SCS Engineers, developing an emissions test plan, oversight of the stack testing services and review of the stack test report the man-hours and costs associated with the actual stack testing are not included. We have also included 100 man-hours and the costs associated with providing Request for Information (RFI) support to the installation contractor during the installation of the NO_x reduction equipment. This engineering design support will be provided from our Overland Park, Kansas office.

The price includes office expenses and travel expenses associated with twelve (12) round trips from our Overland Park office to Columbia, Missouri with no overnight stays.

The price does not include any applicable fees or sales taxes.

If any additional, out of scope work is requested by CWL, it will be performed according to the attached rate sheet. This applies only to the work performed outside the Scope of Services described in this proposal. Any out of Scope work will only be performed with prior authorization from CWL.

This proposal is based upon mutually agreeable terms and conditions between CWL and Sega for permitting and engineering Services. Invoices are assumed to be submitted on a monthly basis and payable on a net thirty (30) day basis.

This proposal is valid for thirty (30) days.

Attachment B

Rate Schedule for Professional Services
Effective through December 31, 2014

Engineering Services

Project Manager, Principal Engineer	$190.00/hr.
Project Engineer, Associate Engineer	$180.00/hr.
Senior Engineer, Senior Specialist	$159.00/hr.
Staff Engineer, Staff Specialist	$144.00/hr.
Engineer, Specialist	$123.00/hr.
Assistant Engineer, Assistant Specialist	$113.00/hr.

Technical and Support Services

Senior Engineering Assistant	$113.00/hr.
Engineering Assistant	$94.00/hr.
Senior Drafting Technician	$77.00/hr.
Drafting Technician	$66.00/hr.
Engineering Secretary, Engineering Aide	$52.00/hr.
Technical Documentation	$42.00/hr.

Field Services

Premium applied to all above rates for long-term field Assignments (includes construction management, Oversight, and outage work)	$10.00/hr.

Project Related Expenses

1. Approved outside special consultants are billed at actual cost.
2. Travel and living expenses are billed at actual cost, except for personal automobile mileage that is billed according to IRS guideline.
3. Reproduction costs such as printing, blueprints, and binding are billed at commercial rates.
4. Shipped charges are billed at cost.
5. Equipment, material, and subcontracted construction are billed at cost.
6. Site office facilities and equipment are billed at actual cost.

NOTICE TO VENDORS
Section 285.525 – 285.550 RSMo Effective January 1, 2009

Effective January 1, 2009 and pursuant to RSMo 285.530 (1), No business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri.

As a condition for the award of any contract or grant in excess of five thousand dollars by the state or by any political subdivision of the state to a business entity, or for any business entity receiving a state administered or subsidized tax credit, tax abatement, or loan from the state, the business entity shall, by sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. Every such business entity shall sign an affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. [RSMO 285.530 (2)]

An employer may enroll and participate in a federal work authorization program and shall verify the employment eligibility of every employee in the employer's hire whose employment commences after the employer enrolls in a federal work authorization program. The employer shall retain a copy of the dated verification report received from the federal government. Any business entity that participates in such program shall have an affirmative defense that such business entity has not violated subsection 1 of this section. [RSMO 285.530 (4)]

For vendors that are not already enrolled and participating in a federal work authorization program, E-Verify is an example of this type of program. Information regarding E-Verify is available at: http://www.dhs.gov/xprevprot/programs/gc_1185221678150.shtm.

CITY OF COLUMBIA, MISSOURI
WORK AUTHORIZATION AFFIDAVIT
PURSUANT TO 285.530 RSMo
(FOR ALL BIDS IN EXCESS OF $5,000.00)

Effective 1/1/2009

County of Johnson)
) ss.
State of Kansas)

My name is John W. Brown, Jr. I am an authorized agent of Sega Inc. (Bidder). This business is enrolled and participates in a federal work authorization program for all employees working in connection with services provided to the City of Columbia. This business does not knowingly employ any person who is an unauthorized alien in connection with the services being provided. **Documentation of participation in a federal work authorization program is attached to this affidavit.**

Furthermore, all subcontractors working on this contract shall affirmatively state in writing in their contracts that they are not in violation of Section 285.530.1 RSMo and shall not thereafter be in violation. Alternatively, a subcontractor may submit a sworn affidavit under penalty of perjury that all employees are lawfully present in the United States.

Affiant

John W. Brown, Jr.
Printed Name

Subscribed and sworn to before me this 17th day of February, 2014.

JUDITH A. DENNIS
NOTARY PUBLIC
My Appt. Exp. 12/29/14
STATE OF KANSAS

Notary Public
My Appointment Expires December 29, 2014

EXHIBIT 2

RATE SCHEDULE FOR INSTRUMENTATION AND CONTROL ENGINEERING SERVICES

RATE SCHEDULE FOR INSTRUMENTATION AND CONTROL ENGINEERING SERVICES

EFFECTIVE THROUGH DECEMBER 31, 2016

FIELD SERVICES

Senior Control Specialist / Senior Engineer Control systems as applied to utilities, coal or waste fuel fired boilers, fluidized bed boilers, microprocessor-based distributed controls, performance monitors (PMIS), or others complex systems except as noted below	$ 184.00/hr.
Staff Control Specialist / Staff Engineer Combustion or burner management control systems as applied to either gas and/or oil fired industrial boilers, or single loop process controls	$ 167.00/hr.
Control Specialist / Engineer	$ 144.00/hr.

For the above services, straight time rates are charged up to 10 hours per day; time and one-half is charged after 10 hours per day and on Saturdays; double-time is charged on Sundays and holidays, and travel time is charged at the above rates.

ENGINEERING SERVICES

Project Manager / Principal Engineer	$ 206.00/hr.
Project Engineer / Associate Engineer	$ 196.00/hr.
Senior Engineer / Senior Specialist	$ 174.00/hr.
Staff Engineer / Staff Specialist	$ 157.00/hr.
Engineer / Specialist	$ 134.00/hr.
Assistant Engineer / Assistant Specialist	$ 124.00/hr.

TECHNICAL AND SUPPORT SERVICES

Senior Engineering Assistant	$ 124.00/hr.
Engineering Assistant / Computer Specialist	$ 103.00/hr.
Senior Drafting Technician	$ 84.00/hr.
Drafting Technician	$ 72.00/hr.
Engineering Secretary / Engineering Aide	$ 56.00/hr.
Technical Documentation	$ 46.00/hr.
Other services available	Negotiated

PROJECT-RELATED EXPENSES

1. Approved outside special consultants are billed at actual cost plus 10 percent.
2. Travel and living expenses are billed at actual cost plus 10 percent, except for personal automobile mileage that is billed according to the IRS guideline.
3. Reproduction costs such as printing, copying, and binding are billed at commercial rates.
4. Shipping charges are billed at cost.
5. Equipment, material, and subcontracted construction are billed at cost plus 10 percent.
6. Daily travel and living expenses incurred during long duration on-site work may be consolidated into a mutually agreeable per-diem charge.
7. Site office facilities and equipment are billed at actual cost plus 10 percent.

ALL PRODUCTS AND SERVICES WILL BE PROVIDED IN ACCORDANCE WITH SEGA'S STANDARD TERMS AND CONDITIONS (597101ECI)

EXHIBIT 3

CHANGE ORDER REQUEST NO. 1

Dated November 10, 2015

November 10, 2015

City of Columbia, Missouri
Water and Light Department
1501 Business Loop, 70 E
Columbia, MO 65205

Attention: Mr. Christian Johanningmeier

Re: City of Columbia, Missouri
Water and Light Department
Columbia Municipal Power Plant
Boiler No. 8 NO_X Reduction
Project No. 14-0072, COR

SUBJECT: REQUEST FOR ADDITIONAL SERVICES - CHANGE ORDER REQUEST NO. 1

Dear Mr. Johanningmeier:

Sega Inc.'s original estimated scope has expanded from our Proposal No. 337Q-13150, Rev. 1. A majority of the additional services rendered are associated with the Phase I Permitting Support. The following items provide a breakdown of the additional services provided:

1. Cost of subconsultant services performed by SCS Aquaterra (CO air dispersion modeling associated with the major source PSD permitting): $11,436.27.

2. Cost of coordinating and responding to Missouri Department of Natural Resources (MDNR) information requests beyond the typical permitting requirements (additional background provided in Attachment 1): $29,554.00.

3. Project schedule extensions and ongoing support of the project (including: additional site visits, new control system cost analysis, additional ID fan capability study, and permitting strategy discussions and revisions), total cost (additional background provided in Attachment 1): $18,980.19.

4. Review of damaged 10-inch gas valve to be replaced: $756.00.

These additional services provided resulted in a total increase of **$60,726.46** to the project.

Sega Inc.
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P.O. BOX 1000
OVERLAND PARK, KANSAS 66085-1000
PHONE 913-681-2881
FAX 913-681-8475
www.segainc.com

If you have any questions, please contact me.

Sincerely,

SEGA INC.

Ryan Zupon, P.E., PMP
Air Pollution Controls Engineer

RJZ/dlc

Enc. 1

c: Chad Elder, Sega Inc.
Jeff Arroyo, Sega Inc.
Tor Anderson, Sega Inc.

City of Columbia, Missouri
Water and Light Department
Boiler No. 8 NO_X Reduction
Project No. 14-0072

CHANGE ORDER REQUEST NO. 1

ATTACHMENT 1 - ADDITIONAL BACKGROUND

ITEM 2

Additional Permitting Services

Additional engineering and permitting support services were required to assist Columbia Municipal Power Plant (CMPP) in obtaining an air construction permit. The additional services consist of three categories: (2.1) the Missouri Department of Natural Resources (MDNR) requiring information that they and other state agencies have not previously required in the CO PSD permitting process, (2.2) regulatory changes related to greenhouse gas (GHG) permitting, and (2.3) required scope that was unknown at the time of the project proposal.

(2.1) Additional MDNR Requirements

During the permitting process, MDNR required information that they and other state agencies have not previously required in the CO PSD permitting process.

Previously, MDNR and other state agencies have not required that air emission control costs be submitted to eliminate oxidation catalysts from the CO BACT process for solid fuel-fired units. Sega Inc.'s (Sega's) proposal did not include the CO BACT cost analysis required by MDNR. Due to additional MDNR requirements, Sega modified the BACT analysis to include costs and discussions on oxidation catalysts and balance-of-plant equipment for the solid fuel-fired units. This required additional engineering hours to develop inputs to the BACT and additional air permitting hours to incorporate into submittals to the MDNR. The additional CO BACT services required an additional 63 hours of engineering support.

Sega's proposal included support to CMPP for responding to MDNR comments until the application was deemed complete and after the draft permit was issued. However, MDNR continued to require assistance during the phase between deeming the application complete and before issuing the draft permit. The MDNR questions were numerous and required multiple revisions to the emissions calculations, BACT analysis, and other application documents. The additional tasks required 16 hours of engineering support.

During the draft permit comment process, MDNR included a permit condition requiring CMPP to have 1-hour and 8-hour CO emission limits related to the CO air dispersion modeling process. These 1-hour and 8-hour emission limits had not been required in any previous CO PSD permit issued by MDNR. MDNR is now requiring these limits due to changes made in the NO_X and SO_2 1-hour national ambient air quality standards (NAAQS). In order for CMPP to get the best permit possible, the short-term CO emission limits had to be revised. This effort also required revision of the ambient air modeling emission rates. The additional 1-hour and 8-hour CO emission limits support required 24 hours of engineering services.

During the draft permit comment process, MDNR included a permit condition requiring CMPP to limit baghouse pressure drop. Previously, MDNR had not been requiring baghouse pressure drop limits. In order for CMPP to get the best permit possible, appropriate baghouse pressure drop requirements had to be developed in coordination with CMPP. An additional 16 hours of engineering support were provided.

(2.2) Unforeseen GHG Regulatory Changes

During the project lifetime from the first permitting proposal, to the boiler NO_X reduction proposal, to the MDNR draft permit being issued for public comment, the EPA's stance on GHG emission caused by biomass has changed significantly. When the permitting scope was originally proposed, CO_2 emissions from biomass combustion were exempt from the PSD permitting process. The U.S. courts removed this exemption. The proposed scope assumed the permitting process would not be "major" for CO_2e.

The permit application that was submitted to MDNR was a major CO and CO_2e PSD construction permit application. A CO_2e BACT analysis was included in this application, the results of which were that CMPP would have an annual CO_2e tons per year (tpy) limit. MDNR required the BACT analysis to be revised to include a cost analysis for various CO_2e control technologies. MDNR also required CMPP have CO_2 limits that were based on lb/MW-hr produced on a 30-day rolling average. The proposed MDNR limits were not achievable by CMPP. In order for these requirements to be removed from the permit, numerous arguments and supporting calculations were submitted to MDNR. MDNR agreed to remove the CO_2e requirements if CMPP were to make a successful "capable of accommodating/excludable emissions" calculation. This process was undertaken and completed. The additional CO_2 support services required 60 hours of engineering.

(2.3) Additional General Permitting Support

The MDNR required hazardous air pollutant ambient air dispersion modeling for the CMPP permit application. Sega's proposal did not include this scope. As a result of this required modeling, additional emission calculations were conducted to minimize the required modeling and permit conditions. These emission calculations included finding alternative emission factors for biomass hazardous air pollutant emissions and getting them approved by MDNR. Once the emissions were approved they were modeled and compared to the MDNR risk assessment levels (RALs), the results of which were submitted to MDNR in a hazardous air pollutants (HAPs) modeling addendum. The additional support consisted of 40 hours of engineering services.

ITEM 3

Schedule Extension

As originally conceived and proposed, the scope of the first phase of the project commenced in late March 2014 and completed in June 2014. However, Phase 1 began in March 2014 but was not substantially complete until September 2015. The extension of the schedule by over a year had a significant impact on the project budget. The inefficiencies associated with starts and stop contributed to cost overruns. Furthermore, additional and unforeseen services were performed during the extended project schedule. Some of the additional services performed include:

1. Additional project coordination.
2. Additional on-site meetings and drawing reviews.

3. Additional ID fan capability studies.
4. Control system cost analysis.
5. Analysis of multiple regulatory scenarios.
6. Permitting strategy discussions.
7. Providing supplementary permitting information and responding to additional MDNR questions.

The schedule extension and additional engineering services provided had an overall impact on the budget of $18,980.19.

EXHIBIT 4

CHANGE ORDER REQUEST NO. 2

Dated February 22, 2016

February 22, 2016

City of Columbia, Missouri
Water and Light Department
1501 Business Loop, 70 E
Columbia, MO 65205

Attention: Mr. Christian Johanningmeier

Re: City of Columbia, Missouri
Water and Light Department
Columbia Municipal Power Plant
Boiler No. 8 NO_X Reduction
Project No. 14-0072, COR

SUBJECT: REQUEST FOR ADDITIONAL SERVICES - CHANGE ORDER REQUEST NO. 2

Dear Mr. Johanningmeier:

Sega Inc.'s original estimated scope has expanded from our Proposal No. 337Q-13150, Rev. 1. The proposal was based on a three-phase project approach: project scoping study and environmental/permitting support (Phase 1), equipment specification (Phase 2), and detailed design and construction support services (Phase 3). It was understood that Phase 2 and Phase 3 services would depend upon the results of the Phase 1 study. The results of the Phase 1 scoping study require additional support beyond the assumptions of our January 2014 proposal. The following items are a breakdown of the additional Phase 3 services performed and anticipated:

1. Replacement of the Existing Air Heater with a New Economizer: The Sega proposal assumed the replacement in-kind of the existing air heater. The air heater to economizer conversion requires additional engineering analysis and design services. Some of the unanticipated services include: structural support of the new economizer, roof penetration and temporary roof support, steam cycle review, and economizer feedwater piping design.

2. Extension of the Project Schedule: The originally proposed Phase 3 duration was 11 months, including commissioning. The Phase 3 support is expected to cover 13 months, including commissioning and conforming to construction records (CTCR) drawing production.

3. Engineering Review and Design of Items Beyond the Boiler 8 Low NO_X Project: Review of the Ameren natural gas yard pressure protection was conducted. Analysis and design for the deaerator drain reroute to the condensate storage tank.

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4. Engineering Review and Design of Unanticipated Items Associated with the Boiler 8 Low NO_x Project: Main natural gas supply piping reroute design, additional flue gas recirculation (FGR) and fan intake review and analysis, relocation of natural gas skids from the basement to platform location, and UPS power for BMS.

The above items include both additional services already provided and additional services anticipated in the future. There are remaining Phase 3 activities that are generally beyond the control of Sega and make determining the final change order amount difficult. These activities include: the extent of engineering design reviews, request for information (RFI) support, construction observation support, CTCR document production, stack testing support, and commissioning support. However, it is anticipated that the additional support beyond our original proposal, as described above, will result in an increase of $50,000 to the project.

If you have any questions, please contact me.

Sincerely,

SEGA INC.

Ryan Zupon, P.E., PMP
Air Pollution Controls Engineer

RJZ/kge

c: Tor Anderson, Sega
Jeff Arroyo, Sega
Chad Elder, Sega

EXHIBIT 5

PROPOSAL FOR ENGINEERING
AND FIELD CONTROL SERVICES

Dated December 29, 2015

December 29, 2015

City of Columbia, Missouri
Columbia Water and Light
Columbia Municipal Power Plant
1501 Business Loop 70 East
Columbia, MO 65201

Attention: Mr. Christian Johanningmeier, P.E.

Re: City of Columbia, Missouri
Columbia Water and Light
Boiler 8 Combustion Controls
Proposal No. 40Q-15124

SUBJECT: PROPOSAL FOR ENGINEERING AND FIELD CONTROL SERVICES

Gentlemen:

Sega Inc. (Sega) is pleased to submit this proposal for the engineering and field control services required to upgrade the combustion control system (CCS) on boiler 8. Our proposal is based on information gathered during our recent meetings and earlier discussions, and as such, it can be modified after your review if needed.

PROJECT DESCRIPTION

The City of Columbia, Missouri (the City) is replacing the burners on boiler 8 with new natural gas low NOx burners as well as making other boiler improvements. As part of this project, a new burner management system (BMS) will be provided and installed with the burners.

The existing CCS was installed in 1999/2000 and is nearing the end of its useful life. During the burner and BMS replacement, the City also wishes to replace the existing eight stand-alone CCS controllers with a new Allen-Bradley PLC-based system. This is consistent with the Allen-Bradley equipment specified for the new BMS.

The CCS consists of steam pressure, fuel flow, airflow, and oxygen trim control loops.

There are several other control loops/circuits, such as main and start-up feedwater regulators, superheat steam temperature, superheat steam relief valve, BFP recirculation, DA level and pressure, etc., that will also be upgraded and included in the CCS PLC.

The current method of archiving operating data is via existing panel-mounted recorders. These will remain in service until a central HMI/historian is installed. Short-term trending will be programmed into the new local CCS HMI. Flows will be totalized in the new CCS PLC and displayed on the local HMI.

The new CCS will be housed in a new stand-alone NEMA 12 enclosure and located near the existing boiler 8 control board (more than likely where the Yokogawa BMS cabinet is now). The existing control board will remain in place as there are numerous motor control switches and other devices that will not be impacted by the burner/boiler upgrade project and will remain in service.

One new local PanelView™ operator interface (HMI) will be mounted in the new enclosure dedicated for the CCS.

The unused control board cutouts, remaining after the existing panel-mounted CCS equipment is removed, will be covered with prefabricated, painted cover plates.

Selected field control devices will be upgraded with the CCS as well. These devices, for the most part, were provided with the original Bailey pneumatic CCS system and did not get upgraded during the 1999/2000 controls retrofit.

The existing pneumatic transmitters that are used for panel-mounted indicators will be replaced with new 4-20 mA transmitters and connected to the CCS PLC for indication, trending, and alarming. Any direct-connected panel-mounted indicators will also be replaced by adding new transmitters.

Any existing 4-20 mA transmitters will be reused to the fullest extent possible.

The existing control valves that get reused will be fitted with new 4-20 mA smart positioners and position switches (if required). The forced draft fan inlet and outlet damper control drives will be replaced with new electric actuators. New power feeds will be added for these actuators.

New RTDs for economizer, feedwater, and flue gas temperatures will be installed and wired to the new CCS PLC.

Both the new BMS and CCS will have the capability to communicate with central operator interface (HMI) equipment and a data historian which are planned to be installed in the future.

RECOMMENDED PROJECT APPROACH

Sega recommends the City purchase the new CCS control equipment directly from their preferred local vendors. Sega will provide the City with a bill of material.

Sega proposes to design, assemble, program, test, and startup the CCS panel/hardware. Sega can also provide the control enclosure and assembly materials.

Plant instrument, electrical, and maintenance personnel will be utilized, as time and schedule permits, for demolition of the existing control system and equipment.

The City's burner installation contractor will install the new CCS panel and field devices during the burner and boiler upgrade project.

Startup of the new CCS will be supported by Sega in conjunction with the new burner/BMS startup.

SCOPE

Engineering/Panel Assembly

Sega will provide or perform the following for the CCS:

1. Attend a kick-off meeting at the plant to discuss overall project objectives, schedule, and administrative details.

2. During the kick-off meeting visit, gather any remaining information, drawings, data, or documentation needed to design the new CCS.

3. Determine and assign CCS PLC I/O. Provide a CCS I/O/device database to the City.

4. Provide a bill of material of the CCS equipment to be purchased by the City including detailed information such as manufacturer, model, range, estimated cost, etc., suitable for purchasing by the City.

5. Control panel layout and wiring drawings.

6. Existing boiler control benchboard demo/cover plate requirements.

7. Field device installation details and field wiring connections.

8. Summary of plant and contractor work required to demo existing and install the new CCS equipment.

9. CCS/BMS interface coordination with the burner/BMS vendor.

10. CCS PLC logic design and programming.

11. Local PanelView™ (HMI) graphics programming (up to eight (8) CCS screens).

12. Incorporate CCS/BMS graphics on both PanelViews™ (up to six (6) BMS screens).

13. Assemble, wire, and test the CCS PLC panel.

14. Perform a CCS PLC/HMI software/hardware acceptance test at Sega's facility (to be attended by the City).

15. CCS operational overview suitable for operator instruction.

16. As-built CCS drawings and documentation.

Field Control Services

1. Pre-design:

    a. Identify existing CCS panel-mounted and field devices that get removed, replaced, or modified.

    b. Determine locations of all new equipment.

    c. Determine new power and control circuit requirements.

2. Installation support:

    a. Review the Sega-provided documentation with the City's plant personnel and the installation contractor (one (1) visit).

    b. Answer questions regarding the CCS installation and Sega-provided documentation while on site or via telephone.

    c. Visit the plant to review the installation and answer questions periodically (five (5) site visits).

3. Checkout and Startup:

    a. Assist the City and the installation contractor with device, I/O, and wiring checkout and calibration of field devices.

    b. Coordinate CCS checkout with the burner and BMS checkout.

c. Startup, test, and tune the new CCS in conjunction with the new burner and BMS startup.

d. Provide informal operator training while on site for checkout and startup.

PRICING

1. Fixed price for engineering, design, programming, and panel assembly.....$99,635

2. Estimate for field control services.....$69,700

3. Estimate for CCS enclosure and assembly materials.....$11,900

Our pricing for field control services is based on providing the following visits and on-site time:

1. Pre-design: One (1) trip / two (2) 8-hour days.

2. Installation support: Six (6) trips / seven (7) 8-hour days.

3. Checkout and startup: Three (3) trips / 21 10-hour days.

We will provide the field control services listed on a time-and-expenses basis per our rates in effect the time the work is performed. Based on our experience with similar projects, we feel the time estimated is sufficient. If more time is needed because of reasons beyond Sega's control or outside of our scope, it can be provided on the same basis. The estimated cost shown above is based on our current rates which are enclosed.

The CCS enclosure and assembly materials estimate is based on the scope and I/O count as understood when this proposal was written. The cost shown is at Sega's cost plus 10%.

Our pricing is valid for 60 days.

STAFFING

The project will be staffed with members of Sega's Field Control Services Department. Other Sega personnel will be assigned as needed.

SCHEDULE

To be mutually agreed upon

CLARIFICATIONS

1. The new CCS will be designed to burn natural gas only.
2. CCS PLC, HMI, and field control devices are to be provided by the City or others.
3. BMS design, programming, equipment, and enclosure by others.
4. Installation labor and material by others.
5. Burner and BMS checkout and startup by others.
6. No other engineering or design services, other than those listed in this proposal, are included in our pricing.
7. The CCS enclosure does not include an air conditioner.

TERMS AND CONDITIONS

This proposal is offered based on the previously agreed upon terms and conditions in the Agreement for Professional Engineering Services between the City and Sega dated March 6, 2014.

Thank you for the opportunity to be of continued service to the City on this project. If you have any questions, please feel free to contact me.

Sincerely,

SEGA INC.

Digitally signed by Jamie Roschak
Reason: On Behalf of the Below Author
Date: 2015.12.29 14:41:00 -06'00'

Kevin R. Kraatz
Vice President

KRK/jlr

Enc. 1

c: Steve Lewandowski, City of Columbia
Ryan Zupon, Sega
Joe Pozzuolo, Sega