REQUEST FOR PROPOSALS

JOINT SCHOOL DISTRICT
ANNUAL BOILER/BURNER MAINTENANCE AND TUNING

SUBJECT: Joint school districts - Annual Boiler/Burner Maintenance and Tuning RFP for Palisades, Pennridge and Quakertown Community School Districts

DESTINATION FOR DELIVERY FOR ALL PROPOSALS:

Quakertown Community School District
Facilities Services Center
311 South Ninth Street
Quakertown, PA 18951

SUBMITTAL DEADLINE:
May 26, 2020 @ 2:00 P.M. (Local prevailing time)

DOCUMENT AVAILABILITY:

The Request for Proposals can be obtained at no charge from each of the participating School District’s Web Sites. Specific school district questions should be directed to the respective facilities Manager/Director:

**Palisades S.D.:** www.palisadessd.org – Mr. Alan Crouthamel, Director of Facilities - (610) 847-5131 x2450
Facilities Office, 35 Church Hill Road, Kintnersville, PA 18930.

**Pennridge S.D.:** www.pennridge.org – Mr. Kelly Harper, Director of Operations - (215) 257-5047
Operations Center, 1303 North Fifth Street, Perkasie, PA 18944.

**Quakertown Community S.D.:** www.qcsd.org – Mr. Robert Christine, Director of Facilities - (215) 529-2008
Facilities Service Center, 311 South Ninth Street, Quakertown, PA 18951.
The Palisades, Pennridge and Quakertown Community School Districts hereafter known as the “joint school districts,” will receive a combined proposal for providing Annual Boiler/Burner maintenance and tuning services on May 26, 2020 until 2:00 p.m. prevailing time at Quakertown Community School District Facilities Service Center, 311 South Ninth Street, Quakertown, PA. 18951. All proposals shall be submitted in a sealed envelope marked “Joint School Districts - Annual Boiler/Burner Maintenance and Tuning Proposal”. Proposals received after the time established above will be returned unopened to the sender.

The school districts each reserve the right to accept or reject any or their entire portion of the proposal which in their judgment, is in the best interest of their School District. The school districts further reserve the right to waive irregularities in the proposal documents or submitted proposals where such waiver is, in the school districts judgement, in its best interests.

Palisades School District
Pennridge School District
Quakertown Community School District
Instructions to Responders

General Terms and Conditions

1. Proposals will be received no later than 2:00 P.M. on Tuesday, May 26, 2020 at Quakertown Community School District Facilities Service Center, 311 South Ninth Street, Quakertown, PA 18951.

2. All proposals must be submitted in a sealed envelope marked “Joint School Districts - Annual Boiler/Burner Maintenance and Tuning”. The company's name must be clearly marked on the outside of the sealed envelope. In the event that a vendor responds to more than one proposal, each proposal must be sealed in its own envelope. Proposals will not be considered unless submitted on the Joint School District's forms. Faxed proposals will not be accepted.

3. Each School Board reserves the right to reject any and all proposals, or any part thereof, to waive defects in same, or to accept any proposal it deems to be in the best interest of The School District.

4. All proposals must be typewritten, or legibly written in ink, and must be signed by the responder on the Proposal Cover Sheet. Proposals altered in any way, (i.e. erasures, white out, etc.) will not be accepted.

5. Proposals must show both unit and total prices. Should figures be irreconcilable, the unit price shall govern, and award shall be made on that basis. Proposal figures shall include all charges including delivery at the destination (F.O.B.) called for in these specifications and shall include all discounts except the cash discount. Responders shall state on the Proposal Cover Sheet what discount, if any, is offered for prompt payment of bills and if such cash discount is offered, it shall also be stated within what period of time the discount will be allowed. The School District is exempt from Federal Excise Tax and State Sales Tax and will execute a Tax Exemption Certificate when requested.

6. Trade names, where used in the specifications, are intended to describe the product and quality desired. Use of such names is not intended to discourage responders from submitting prices on articles of equal quality. Responders are required to identify and describe any such items proposed as alternates. Do not provide alternates for items marked "NO SUBSTITUTIONS."

7. The Board will accept proposals on an individual or total award basis and has its discretion to accept any or all proposals in part or in whole.

8. The responder agrees to the following terms if award is made to it: the responder will not assign in whole or part any rights or privileges which may accrue to it under the terms of the contract; the responder will not assign or transfer the award, unless specific permission to do so is granted in writing by the Board; and the responder will not subcontract any of the duties or responsibilities thereunder.

9. All responders must enter information as to probable time of delivery for items upon which proposals are submitted. Orders placed, as a result of proposals, will imply a contractual obligation of the vendor to supply the items within the time specified on the proposal by the District.

10. All delivery trucks are required to have lift gates for delivery, due to the fact that the school buildings do not have loading docks.

11. To allow sufficient time for the awarding process, proposal prices shall remain firm for a minimum of one hundred twenty (120) days from the date of the proposal award and cannot be withdrawn during that period.

12. Proposal quantities, as submitted by the District are responsible estimates; however, the successful responder shall agree to furnish such additional amounts of each item as are required by the School District at a cost no higher than the proposal price specified in the award.

13. It is mutually understood and agreed by and between each School District and the responder that the District may make its award for one or more than one of the projects or items set forth in these specifications, or may make the award for all the projects or items set forth in these specifications. The District has the right to accept or reject all or any portion of any or all proposals submitted, and to make the award in the best interest of the School District.

14. The responder agrees, if awarded the contract, to furnish and deliver the said materials at such time, at such place and in such quantities as herein specified, and that all of the materials shall be subject to the inspection
and approval of each School District. In the event that any of the said materials shall be rejected as unsuitable or not in conformance with these specifications, such materials shall at once be removed and returned to the responder at his expense, and other materials of proper quality as set forth in these specifications shall be furnished in place thereof at the expense of the successful responder.

15. In the event that the successful responder shall neglect or refuse to furnish and deliver the said materials or any part thereof as provided in the specifications or to replace any which are rejected as stated in the preceding paragraph, then, in such event, the District is authorized and empowered to purchase materials in conformity with this contract from such party or parties in such quantities and in such manner as it shall select at the expense of the successful responder, or to cancel this contract reserving to itself, nevertheless, all rights of damages which may be incurred by the District.

16. All samples must be submitted prior to the date of the opening of proposals in order to ensure consideration of said items. These samples shall be plainly marked with the name of the product as well as that of the responder. After the awards are made, all samples will be returned to the unsuccessful responders at the expense of the responders. In the case of the successful responders, these samples will be retained until final delivery on these items is made.

17. The responder does hereby agree that, if awarded the contract under these specifications, he will indemnify and save harmless each School District from all suits and actions of every nature and description growing out of any contract or contracts, written or verbal, entered into between each School District and the successful responder.

18. **Regulatory Compliance**: All work completed and products supplied shall comply with all applicable regulations; this will include U.S. Dept of Safety, PA Dept. of L&I, PA Dept of Ed., OSHA, ASME, NFPA and all other applicable Federal, State and Local regulatory agencies.

19. **Safety Data Sheets**: Successful responders must supply (per shipment), where applicable, "Material Safety Data Sheets" in compliance with the Employee Right to Know laws. Failure to provide the Material Safety Data Sheets may result in withholding of payment until received.

20. **Discrimination Prohibited**: According to Section 755, Public School Code of Pennsylvania, 1949 as amended, the contractor agrees:

   A. That in the hiring of employees for the performance of work under this contract, or any sub-contract hereunder, no contractor, sub-contractor, nor any person acting on behalf of such contractor or sub-contractor, shall, by reason of race, creed or color, discriminate against any citizen of the Commonwealth of Pennsylvania who is qualified and available to perform the work to which the employment relates;

   B. That no contractor, sub-contractor, nor any person on his behalf, shall in any manner discriminate against or intimidate any employee hired for the performance of work under his contract on account of race, creed or color.

   C. That there may be deducted from the amount payable to the contractor under this contract, a penalty of five dollars ($5) for each person for each calendar day during which such person was discriminated against or intimidated, in violation of the provisions of the contract; and,

   D. That this contract may be cancelled or terminated by the School District and all money due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this portion of the contract.

21. **Human Relations Act**: The provisions of the Pennsylvania Human Relations Act, Act 222 of 10/27/55 (P.L. 744) (43 P.S. Section 951, et. seq.) of the Commonwealth of Pennsylvania prohibit discrimination because of race, color, religious creed, ancestry, age, sex, national origin, handicap or disability, by employers, employment agencies, labor organizations, contractors and others. The contractor shall agree to comply with the provisions of this Act as amended that are made part of this specification. Your attention is directed to the language of the Commonwealth’s non-discrimination clause in 16 PA. Code 349.101.

22. **Competent Workmen**: According to Section 752 of the Public-School Code of 1949, no person shall be employed to do work under such contract except competent and first-class workmen and mechanics. No workmen shall be regarded as competent and first class, within the meaning of this Act, except those who are duly skilled in their respective branches of labor, and who shall be paid not less than such rates of wages and for such hours; work as shall be established and current rates of wages paid for such hours by employers of organized labor in doing of similar work in the district where work is being done.
23. **Pennsylvania Prevailing Wage Rates:** This regulation and the general Pennsylvania prevailing minimum wage rates (Act 422 of 1961, P.L. 987, as amended), as determined by the Secretary of Labor and Industry, which shall be paid for each craft or classification of all workers needed to perform the contract during the anticipated term therefore in the locality in which public work is performed, are made part of this specification.

24. **Standard of Quality:** The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for proposal purposes. It is not the intent to limit the responder, the proposal or the evaluation of the proposal to any one material or product specified, but rather to describe the minimum standard. When proprietary names are used, they shall be followed by the words "or alternatives of the quality necessary to meet the specifications." A proposal containing an alternative which does not meet the specifications may be declared nonresponsive. A proposal containing an alternative may be accepted but, if an award is made to that responder, the responder will be required to replace any alternatives which do not meet the specifications.

25. **Provision for the Use of Steel and Steel Products Made in the U.S.:** In accordance with Act 3 of the 1978 General Assembly of the Commonwealth of Pennsylvania, if any steel or steel products are to be used or supplied in the performance of the contract, only those produced in the United States as defined therein shall be used or supplied in the performance of the contract or any subcontracts thereunder.

A. In accordance with Act 161 of 1982, cast iron products shall also be included and produced in the United States. Act 141 of 1984 further defines "steel products" to include machinery and equipment. The act also provides clarifications and penalties.

26. **Non-Collusion Affidavit:** The Non-Collusion Affidavit is material to any contract awarded pursuant to this proposal.

According to the Pennsylvania Antidbid-Rigging Act, 73 P.S. SS 1611 e.t seq., governmental agencies may require Non-Collusion Affidavits to be submitted together with proposals. The Non-Collusion Affidavit must be executed by the member, officer or employee of the responder who makes the final decision on prices and the amount quoted in the proposal.

Proposal rigging and other efforts to restrain competition and the making of false sworn statements in connection with the submission of proposals are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the responder with responsibilities for the preparation, approval or submission of the proposal.

In the case of a proposal submitted by a joint venture, each party to the venture must be identified in the proposal documents, and an Affidavit must be submitted separately on behalf of each party.

The term "complementary proposal" as used in the Affidavit has the meaning commonly associated with that term in the proposal process, and includes the knowing submission of proposals higher than the proposal of another firm, any intentionally high or noncompetitive proposal, and any other form of proposal submitted for the purpose of giving a false appearance of competition.

Failure to file an Affidavit in compliance with these instructions will result in disqualification of the proposal.

27. **Clearances:**

A. Under Pennsylvania Law, the chosen respondent will be required to obtain three (3) satisfactory employee clearances for each respondent-employee assigned to work on or in any Quakertown School District property or facility. The cost of obtaining such employee clearances shall be the sole responsibility of the chosen respondent. The Contractor shall not allow any employee, prospective employee or independent contractor on the job site prior to providing Quakertown School District with the below referenced clearances.

   a) **Child Abuse Clearance** an official clearance statement obtained from the Pennsylvania Department of Public Welfare, pursuant to Act 151 of 1959.Subchapter C.2. of the Child Protective Services Act.

   b) **Pennsylvania Criminal History Background Check,** Act 34 of 1985 Pennsylvania Public School Code 1949 as amended. Pursuant to §1-111, prior to commencing work under the independent contractors and their employees who provide services to a Pennsylvania school entity are required to obtain a report of Criminal History Record Information" from the Pennsylvania State Police

   c) **FBI Background Check,** Act 114

B. All clearances documents must be dated no less than one (1) year prior to their delivery to the District.
C. Any Contractor’s employee with a documented criminal background, child abuse history shall be deemed objectionable by the District, in its sole discretion, and will be prohibited from working on the District’s property.

D. The selected Contractor must provide a copy of the above three clearances for each employee before the employee can provides services at the Quakertown School District locations. The clearances cannot be older than 1 year.

28. **Indemnification By Contractor:** Contractor will agree to indemnify, defend and hold harmless the District and its directors, administration, employees and agents from and against all demands, claims, actions, losses, judgement, cost, and expenses imposed upon or incurred by the District arising out of any of the following:
   A. Contractor’s failure to comply with its obligations under any applicable laws, regulations or orders, including, but not limited to, claims arising out of Contractor’s or Contractor employee’s copying, duplication, retention, or disclosure or allege copying, duplication, retention or disclosure of Education Records (as such term is defined in the Family Education Right to Privacy Act, 20 U.S.C. § 1232g, and its regulations) or information contained in Education Records.
   B. Breach of any obligation of Contractor contained in the Contract; or
   C. Any direct claim for workers’ compensation benefits for job-related bodily injury or death asserted against the District by any Contractor employees or, in the event of death, by their personal representatives.

29. **Insurance Requirements:**
   A. Contractor (and any subcontractor) shall have insurance coverage meeting the following criteria: All insurance companies shall have an A.M. Best’s Financial Strength Rating of A++, A+, A, A-. The limits of liability for the insurance required shall provide coverage for not less than the following amounts or greater where required by laws or regulations, unless waived in writing by the District:
      a) **Automobile Liability:** Automobile Liability Insurance covering all owned, hired and non-owned vehicles in the amount of $1,000,000 per occurrence with not more than $1,000 per occurrence deductible or self-insurance retention.
      b) **Workers Compensation:** Worker’s Compensation Insurance, disability benefit and other social insurance as may be required by law.
      c) **Comprehensive General Liability:** Comprehensive General Liability insurance in the amount of $1,000,000 per occurrence with not more than $1,000 per occurrence deductible or self-insurance retention.
      d) **Excess (Umbrella) Liability:** Excess Liability coverage of $1,000,000, unless waived by District.
   B. Except for Worker’s Compensation Insurance, District shall be named as certificate holder and a primary, noncontributory additional insured under such insurance coverage.
   C. Contractor shall submit insurance certificates (“Certificates”) to School District evidencing required insurance coverage at the time of submission of this Agreement and at any other time(s) upon School District’s reasonable request(s). Certificates evidencing the required insurance shall stipulate that School District shall receive thirty (30) days prior written notice of any change or cancellation in coverage. If Contractor or any subcontractor fails to carry any insurance required by this Section, Contractor shall protect, indemnify and hold harmless School District in the same manner as if Contractor and/or such subcontractor had in full force and effect coverage in accordance with this Section.
NON-COLLUSION AFFIDAVIT

(Due at time of the proposal opening.)

JOINT SCHOOL DISTRICTS

RFP - Annual Boiler/Burner Maintenance and Tuning.

State of ________________________________

County of ________________________________

I state that I am (Name & Title) ________________________________ of (Name of Firm) ________________________________ and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors and officers. I am the person responsible in my firm for the price(s) and the amount of this proposal:

I state that:

(1) The price(s) and amount of this proposal have been arrived at independently and without consultation, communication or agreement with any other responder or potential responder.

(2) Neither the price(s) nor the amount of this proposal, and neither the approximate price(s) nor approximate amount of this proposal, have been disclosed to any other firm or person who is a responder or potential responder, and they will not be disclosed before proposal opening.

(3) No attempt has been made or will be made to induce any firm or person to refrain from responding on this contract, or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal or other form of complementary proposal.

(4) The proposal of my firms is made in good faith and not pursuant to any agreement of discussion with, or inducement from, any firms or person to submit a complementary or other noncompetitive proposal.

(5) ________________________________, (Name of Firm) its affiliates, subsidiaries, officers, directors and employees are not currently under investigation by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to submitting proposals on any public contract, except as follows:

(6) I state that ________________________________ (Name of Firm) understands and acknowledges that the above representations are material and important, and will be relied on by the Pennridge School District in awarding the contract(s) for which this is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the Pennridge School District of the true facts relating to the submission of proposals for this contract.

__________________________________________ (Name and Company Position)

__________________________________________ (Signature)

SWORN TO AND SUBSCRIBED BEFORE ME THIS _________ DAY OF __________, 20____

Notary Public

My commission Expires
RFP Specifications

Scope of work:

Annual Boiler/Burner Maintenance and Tuning
The required testing, inspection and preventive maintenance services are as recommended by the specific boiler manufacturer, general industry standards, applicable GSA Standard Preventive Maintenance Procedures or as follows, whichever is greater. Included in the preventive maintenance costs must be all labor, all preventive maintenance supplies required / recommended such as but not limited to filters, gaskets, rags, sealants, hand tools, meters; and other services such as, but not limited to combustion testing, electrical testing, tube cleaning, inspection and testing as are necessary to perform the required / recommended preventive maintenance work. Repair work beyond preventive maintenance services, when approved by the District, will be done at the rates quoted in the Pricing Schedule.

1. Complete annual preventive maintenance, routine repairs and adjustments per manufacturer's specs and GSA Procedures which are listed in Appendix A.
2. All annual preventive maintenance, routine repairs and adjustment work to the Boilers must be completed by September 30th, each year.
3. Complete a mid-heating season inspection and tuning in January of all boilers to make sure they are still operating properly including completing combustion efficiency tests on each boiler. The combustion analysis testing and adjustments will be documented in writing and submitted to the school district.
4. Thoroughly inspect boilers to ensure that they are in compliance with Commonwealth of PA Codes and Regulations and report any conditions that require correction.
5. Prepare a written report with a list of work completed and any major repairs needed for each boiler.
6. Contractor to do work safely and schedule so as not to interfere with classes / student activities. All work to be done during normal working hours.
7. Contractor is responsible to block off work area to keep others out.
8. Contractor must include current insurance certificate with RFP response.
9. The Contractor shall employ only trained, skilled personnel to perform the above work, no sub-contracting permitted.
10. The Contractor's employees are not permitted to go outside of the work area, except as necessary to perform the work.
11. Contractor must provide all tools, ladders, personnel lifts, etc., as need and strictly follow OSHA regulations for all work.
12. Provide written certification that the Hot Water Boilers have been thoroughly inspected and are safe to use upon completion of inspection / repairs.
14. Please include with your response to this RFP any additional items / fees / travel costs that your company routinely charges that are not listed above.
15. Pricing for this Annual Boiler Inspection, Cleaning, Repair and Preventive Maintenance Services RFP must include all supplies, parts, and materials such as gaskets, oil filters, cleaning chemicals, etc., typically required by the manufacturer and/or are general industry standards.

Contract Period:
Initial Award Period - July 1, 2020 through June 30, 2021, with the option to renew for One (1) additional one (1) year period by written agreement of the parties.
Firm Fixed Price to provide annual boiler preventative maintenance and combustion efficiency tuning as described in these specifications.

<table>
<thead>
<tr>
<th>TOTAL ANNUAL COSTS</th>
<th>Year 1</th>
<th>Year 2</th>
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</thead>
<tbody>
<tr>
<td>Boiler PM and Tuning</td>
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Unit Price for additional services beyond the scope of these services.

<table>
<thead>
<tr>
<th>HOURLY RATES</th>
<th>Year 1</th>
<th>Year 2</th>
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<tr>
<td>Normal Rate</td>
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<tr>
<td>(7:00am-5:00pm)</td>
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<tr>
<td>Emergency Rate</td>
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<td>(5:01pm-6:59am)</td>
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CONCURRENCE: The undersigned responder hereby certifies to reading and agreeing to all instructions and conditions as set forth herein and the entire proposal document including providing the required clearances, insurance, non-collusion affidavits and agrees to comply with the same, without any exceptions, if awarded the contract.

Name & Title ______________________________________

Company Name _____________________________________

Address____________________________________________

____________________________________________

E-Mail Address _____________________________________

Phone # ___________________ FAX # ___________________

Date ______________________________________________

Authorized Signature: _______________________________

Non-Collusion Affidavit  _____  _____

Yes  No
### PRICING SCHEDULE

#### Pennridge School District

<table>
<thead>
<tr>
<th>Building</th>
<th>QTY</th>
<th>Type</th>
<th>PM</th>
<th>Tuning</th>
<th>Year 1 7/2020 – 6/2021</th>
<th>Year 2 7/2021 – 6/2022</th>
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<tr>
<td></td>
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<td>FO, NG, P</td>
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<tr>
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<td><strong>Grasse Elementary School</strong></td>
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<td><strong>West Rockhill Elementary School</strong></td>
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<td><strong>High School</strong></td>
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<td>FO, NG</td>
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<td>Weil-McLain</td>
<td>NG</td>
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**Yearly Subtotals**

| Proposal Amount – Total Price | $  | $ |

*** Summer Boiler PM work may be invoiced after this phase of work has been completed and approved.
*** Mid-season Boiler Tuning may be invoiced after this phase of work has been completed and approved.

**Description of services and billing rates normally billed by the Vendor, but not included in this RFP:**

$__________________________

$__________________________
## BUILDING LOCATIONS

### Pennridge School District

<table>
<thead>
<tr>
<th>Building</th>
<th>Address</th>
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</thead>
<tbody>
<tr>
<td>Bedminster ES</td>
<td>2914 Fretz Valley Road, Perkasie, PA 18944</td>
</tr>
<tr>
<td>Deibler ES</td>
<td>1122 Schwenkmill Road, Perkasie, PA 18944</td>
</tr>
<tr>
<td>JM Grasse ES</td>
<td>600 Rickert Road, Sellersville, PA 18960</td>
</tr>
<tr>
<td>Patricia A. Guth ES</td>
<td>601 N. 7th Street, Perkasie, PA 18944</td>
</tr>
<tr>
<td>Sellersville ES</td>
<td>122 W. Ridge Avenue, Sellersville, PA 18960</td>
</tr>
<tr>
<td>MM Seylar ES</td>
<td>820 Callowhill Road, Perkasie, PA 18944</td>
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<tr>
<td>West Rockhill ES</td>
<td>1000 Washington Avenue, Sellersville, PA 18960</td>
</tr>
<tr>
<td>Central MS</td>
<td>144 North Walnut Street, Perkasie, PA 18944</td>
</tr>
<tr>
<td>North MS</td>
<td>1500 North Fifth Street, Perkasie, PA 18944</td>
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<tr>
<td>South MS</td>
<td>610 S. Fifth Street, Perkasie, PA 18944</td>
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<tr>
<td>High School</td>
<td>1228 N. Fifth Street, Perkasie, PA 18944</td>
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<tr>
<td>District Administrative Offices</td>
<td>1200 N. Fifth Street</td>
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<tr>
<td>Operations Building</td>
<td>1303 N. 5th Street, Perkasie, PA 18944</td>
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<tr>
<td>DSC/Transportation</td>
<td>1506 North Fifth Street, Perkasie, PA 18944</td>
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**END**

Pennridge School District
**PROPOSAL COVER SHEET (2 of 3)**

**QUAKERTOWN SCHOOL DISTRICT**

**RFP - Annual Boiler/Burner Maintenance and Tuning**

**Firm Fixed Price** to provide annual boiler preventative maintenance and combustion efficiency tuning as described in these specifications.

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**Unit Price** for additional services beyond the scope of these services.

<table>
<thead>
<tr>
<th>HOURLY RATES</th>
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<table>
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<tr>
<th>Year 1</th>
<th>Year 2</th>
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<tbody>
<tr>
<td><strong>Normal Rate</strong>&lt;br&gt;(7:00am-5:00pm)</td>
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<tr>
<td><strong>Emergency Rate</strong>&lt;br&gt;(5:01pm-6:59am)</td>
<td></td>
</tr>
</tbody>
</table>

**CONCURRENCE:** The undersigned responder hereby certifies to reading and agreeing to all instructions and conditions as set forth herein and the entire proposal document including providing the required clearances, insurance, non-collusion affidavits and agrees to comply with the same, without any exceptions, if awarded the contract.

Name & Title ________________________________________

Company Name _____________________________________

Address____________________________________________

____________________________________________

E-Mail Address ______________________________________

Phone # ________________ FAX # ________________

Date ______________________________________________

Authorized Signature: _________________________________

**Non-Collusion Affidavit**

Yes    No
### PRICING SCHEDULE

#### Quakertown School District

<table>
<thead>
<tr>
<th>Building</th>
<th>QTY</th>
<th>Type</th>
<th>Fuel Types</th>
<th>PM</th>
<th>Tuning</th>
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<td>January</td>
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**Yearly Subtotals**

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<tr>
<th>Building</th>
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<th>Type</th>
<th>Fuel Types</th>
<th>PM</th>
<th>Tuning</th>
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### Proposal Amount – Total Price

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<th>Year 2 7/2021 – 6/2022</th>
</tr>
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<tr>
<td>$</td>
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*** Summer Boiler PM work may be invoiced after this phase of work has been completed and approved.***

*** Mid-season Boiler Tuning may be invoiced after this phase of work has been completed and approved.***

**Description of services and billing rates normally billed by the Vendor, but not included in this RFP:**

______________________________________________________________________$_______________

______________________________________________________________________$_______________
# BUILDING LOCATIONS

Quakertown School District

<table>
<thead>
<tr>
<th>Building</th>
<th>Address</th>
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<tbody>
<tr>
<td>6GC</td>
<td>349 South Ninth Street, Quakertown PA, 18951</td>
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<tr>
<td>Richland ES</td>
<td>500 Fairview Ave, Quakertown PA, 1895</td>
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<tr>
<td>Neidig ES</td>
<td>201 Penrose Street, Quakertown PA, 18951</td>
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<tr>
<td>Quakertown ES</td>
<td>123 Seventh Street, Quakertown PA 18951</td>
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<tr>
<td>Tohickon Valley ES</td>
<td>2360 Old Bethlehem Pike, Quakertown, PA 18951</td>
</tr>
<tr>
<td>District Service Center</td>
<td>100 Commerce Drive, Quakertown PA, 18951</td>
</tr>
<tr>
<td>Facilities Building</td>
<td>311 South Ninth Street, Quakertown PA, 18951</td>
</tr>
</tbody>
</table>

Quakertown School District

END
RFP - Annual Boiler/Burner Maintenance and Tuning

**Firm Fixed Price** to provide annual boiler preventative maintenance and combustion efficiency tuning as described in these specifications.

<table>
<thead>
<tr>
<th>TOTAL ANNUAL COSTS</th>
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<tr>
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<td>Year 1</td>
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<td>Boiler PM and Tuning</td>
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**Unit Price** for additional services beyond the scope of these services.

<table>
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<th>HOURLY RATES</th>
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Name & Title ________________________________

Company Name ______________________________

Address_____________________________________

___________________________________________

E-Mail Address __________________________________

Phone # ________________ FAX # _________________

Date _________________________________________

Authorized Signature: ____________________________

Non-Collusion Affidavit _______ ______

Yes No
### Pricing Schedule

**Palisades School District**

<table>
<thead>
<tr>
<th>Building</th>
<th>QTY</th>
<th>Type</th>
<th>FO, NG, P</th>
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<th>Year 2 7/2021 – 6/2022</th>
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</thead>
<tbody>
<tr>
<td>Durham Nockamixon Elementary School</td>
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</tr>
<tr>
<td>Springfield Elementary School</td>
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<td>Burnham</td>
<td>FO</td>
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</tr>
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<td>Springfield Elementary School</td>
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<tr>
<td>Palisades Middle School</td>
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<td>HB Smith</td>
<td>FO</td>
<td></td>
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</tr>
<tr>
<td>Palisades Middle School</td>
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<td>PVI water heater</td>
<td>FO</td>
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<tr>
<td>Palisades Senior High School</td>
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<td>Weil McLain</td>
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<tr>
<td>Palisades Senior High School</td>
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<td>PVI water heater</td>
<td>FO</td>
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</tbody>
</table>

**Yearly Subtotals**

<p>| | | |</p>
<table>
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| Proposal Amount – Total Price | $ | $ |

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## BUILDING LOCATIONS

**Palisades School District**

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<th>Building</th>
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<tbody>
<tr>
<td>Durham Nockamixon Elementary</td>
<td>41 Thomas Free Drive Kintnersville, Pa 18930</td>
</tr>
<tr>
<td>Springfield Elementary</td>
<td>1950 Route 212 Quakertown, PA 18951</td>
</tr>
<tr>
<td>Palisades Middle School</td>
<td>4710 Durham Rd Kintnersville, PA 18930</td>
</tr>
<tr>
<td>Palisades Senior High School</td>
<td>35 Church Hill Rd Kintnersville, PA 18930</td>
</tr>
</tbody>
</table>
Appendix A

GSA – PM Guidelines

Boiler - HVAC-BLR-01-01Y

Frequency: Annually

Application:

This standard card applies to both heating boilers and power boilers which use either natural gas or fuel oil for their fuel source. The standard card will identify which information applies to only one of these two boilers.

Special Instructions:

1. In addition to the procedure(s) outlined in this standard, the equipment manufacturer's recommended maintenance procedure(s) and/or instruction(s) shall be strictly adhered to.
2. Perform boiler external inspection with internal inspection and annual preventive maintenance.
3. Review manufacturer's instructions and ASME Boiler and Pressure Vessel Codes for boilers.
4. Review the Standard Operating Procedure for "Selection, Care and Use of Respiratory Protection."
5. Follow lock out/tag out procedures at all times. De-energize or discharge all hydraulic, electrical, mechanical, or thermal energy prior to beginning work.
6. All automatically and manually operated control devices provided for controlling operation and safety of the vessel, steam or water pressure, hot water temperature, combustion, and boiler water level shall be inspected under operating conditions.
7. All associated valves and piping, pressure and temperature indicating devices, metering and recording devices, and all boiler auxiliaries shall be inspected under operating conditions.
8. All combustion controls attached to the boiler regardless of the fuel being fired must be in good working order or the inspection certificate shall be withheld.
9. Close and tag all hand or motorized valves required to isolate the boiler. Chain and lock all valves that are closed for safety. These valves shall not be unlocked and reopened unless authorized by the originator of the work authorization. Enter this information in the boiler log and sign.
10. Wear appropriate respirator, goggles, and gloves while in contact with hazardous materials. Contact the Safety and Environmental Management Division/Branch if you have questions.
11. Lighting: Flashlight should be used in preference to an extension light. When a portable extension light is used in a confined space, it shall not be operated at more than 1volts.
12. Perform internal boiler inspection in accordance with requirements of American Society of Mechanical Engineers (ASME), Section VI, Recommended Rules for Care and Operation of Heating Boilers, and Section VII, Recommended Rules for Care of Power Boilers; and National Board Inspection Code ANSI/NB-23, A Manual for Boiler and Pressure Vessel Inspectors.
13. Inspection shall be performed by inspectors certified by the National Board of Boiler Pressure Vessel Inspectors.
14. Prepare boiler for internal inspection in the following manner:
   a. Fuel supply and ignition system shall be locked out.
   b. Water shall be drawn off and water side thoroughly washed out.
   c. Manhole and handhole plates, washout plugs, inspection plugs in water column connections shall be removed.
   d. The boiler shall be cooled and thoroughly cleaned.
   e. All grates of internally fired boilers shall be removed.
   f. Insulation and brickwork shall be removed as required to determine condition of boiler, headers, furnace, supports or other parts. g. Pressure gage(s) shall be removed and tested.
   g. Any leakage of steam or hot water into the boiler shall be prevented by disconnecting the pipe or valve at the most convenient point.
   h. Before opening the manhole and entering any part of the boiler, the required steam or water system stop valves must be closed, tagged, and padlocked. All drain valves or cocks located between the two valves shall be opened.
15. Inspector will not enter boiler until satisfied that necessary safety precautions and pre inspection preparations have been made.
16. If a boiler has not been properly prepared for an internal inspection, the inspector should decline to make the inspection.

17. If materials to be worked on are known or suspected to contain asbestos, check the building's asbestos management plan to see if they have been tested for asbestos. If they are suspect but have not been tested, have them tested. Manage asbestos in accordance with the plan.

18. Account for all tools, materials, and equipment before closing boiler.

19. Children of this Piece of Equipment

20. The following equipment items are the children of this piece of equipment and the PMs for these items should be completed at the same time. See other sections of this standard for the detailed PM requirements for the children equipment.


22. Burner, Gas or Oil.

23. Boiler and Boiler Room Controls.

24. Heat Recovery Unit (i.e. feedwater economizer)
   a. Visually inspect for corrosion and/or soot accumulation. Note: the temperature differential across the economizer can be taken to determine combustion efficiency.

Check Points:

1. External Inspection Procedure:
2. Inspect overall cleanliness and accessibility of boiler and auxiliary equipment. Boiler fittings, valves and piping should be checked for compliance with ASME code and jurisdictional requirements.
3. Pressure Gages: Note the pressure reading indicated on pressure gage and compare it with another gage on the same system or with a standard test gage.
4. Water Level Gage Steam Boilers:
5. Observe the blowdown of the water gage in its normal manner and the promptness of the return of water in the gage should be noted.
6. During the test of the water level gage, water and steam connections should be blown separately to ensure both are clear.
7. Safety and Safety Relief Valves:
   a. Safety valves should be tested by allowing the pressure in the boiler to rise to the popping pressure, and subsequent fall, to check the actual popping pressure and blowdown. If this is not practical, the valve should be tested by the boiler operator for free operation by use of the lifting lever, provided the boiler pressure is 75% or more of the set pressure.
   b. Inspect valve discharge pipe to determine if discharge pipe is free and in accordance with ASME Code requirements.
   c. When inspections reveal that a safety valve is not operating properly, the boiler shall be taken out of service and the valve shall be replaced or repaired.
8. Low Water Fuel Cutoff or Feed Controls: Observe the test of these controls after the drain has been opened. Close the drain and observe the promptness of the return to normal such as the silencing of an alarm or stopping of a feed pump should be noted. The float linkage and connections should be examined for wear and the float chamber should be free of sludge or other accumulation.
9. Blowoff Piping Power Boilers: Observe blowdown of the boiler in normal manner, check for freedom of piping to expand and contract and ensure there is no excessive vibration.
10. Flame Failure Cutoff and Alarm: Test flame failure shutdown and alarm on both pilot failure and main flame failure by securing fuel source. Ensure shutdown and alarm occurs in accordance manufacturers and ASME requirements.
11. Piping, Connections and Fittings:
   a. Inspect piping to ensure there is provision for expansion and adequate support.
   b. Piping and fittings should be examined for evidence of leakage and excessive vibration. Also closely examined to determine that they are properly rated for the service conditions to which they are subjected.
12. Scale, oil, etc.:
   a. Examine all surfaces of exposed metal on waterside of boiler for deposits caused by water treatment, scale, oil, or other substances.
   b. The smallest amount of oil is dangerous and immediate steps should be taken to clean affected surfaces and prevent further contamination, excess scale or other deposits should be removed by appropriate chemical or mechanical means.
13. Pressure controls (heating steam boilers): Verify that each automatically fired steam boiler is protected from over pressure by not less than two pressure operated controls one of which may be an operating control.
14. Determine if there is ample provision for expansion between the sections.
15. Check for excessive rust build-up between sections (cast iron type).
16. Examine all steam and water line to controls to determine that they are clear of scale and arranged to insure proper control operations.
17. Clean stems and shafts and tighten packing nuts on valves and pumps.
18. Flush fuel oil strainer baskets and oil solenoid valve seats.
19. Dismantle low water fuel cut offs and water feeders to insure freedom from obstructions and proper functioning of the working parts. Always replace old gaskets before reassembling.
20. Inspect connecting lines to boiler for accumulations of mud, scale, etc., and clean as needed.
21. Examine all visible wiring for brittle or worn insulation, and make sure electrical contacts are clean, adequately tightened, and functioning properly.
22. On electrical type detection devices, replace vacuum tubes annually, and replace defective solid-state devices.
23. Replace fusible plugs, if applicable.
24. Hydrostatic Test
25. Hydrostatic Test:
   a. The test pressure should not exceed 1 1/2 times the maximum allowable working pressure.
   b. The safety valve or valves should be removed or each disk shall be held down by means of a testing clamp.
   c. While at test pressure, time should be given to examine the complete pressure vessel for leaks prior releasing pressure.
26. Safety and Safety Relief Valves:
   a. Check valves for correct pressure setting and adequate discharge pipe supports.
   b. The safety or safety relief valve on a steam or hot water heating boiler should be tested manually once each month and pressure tested once each year.
27. Pressure Gages:
   a. When required, pressure gages shall be tested and calibrated.
   b. Location of steam pressure gage(s) should be noted to determine whether it is exposed to high temperature from an external source or to internal heat due to lack of protection by a proper siphon or trap.
28. Internal Inspection
29. When the boiler has cooled to the ambient boiler room temperature, wash out mud legs, and flush boiler.
30. To protect the boiler from unnecessary stresses the boiler water temperature should be allowed to reach the boiler room temperature before draining the boiler. Drain boiler, tag valves and controls. NEVER attempt to remove a manhole or handhole cover without first properly venting the water or steam side of a boiler to the atmosphere. Prior to opening or entering a boiler it must be at atmospheric pressure.
31. Inspect the boiler tube surfaces for rust and soot buildup. Rust is an indicator of condensation. The tubes should be brushed. Vacuum debris from all surfaces.
32. Clean breaching, ducts, fireboxes, or main fire tube, and flue passages. Vacuum debris from all surfaces.
33. Check and replace worn or damaged insulation. Repair the damage and remove the debris. If the insulation contains asbestos, refer to Appendix G for the Universal Waste Guide.
34. Check refractory and brick work; if damaged notify supervisor and enter this data in boiler log.
35. Stays and stay bolts:
   a. Examine stays to determine whether or not they are in even tension. All fastened ends should be examined to determine whether cracks exist where stays are punched or drilled for rivets or bolts.
   b. Test firebox stay bolts by tapping one end of each bolt with a hammer and, where practical, a hammer or other heavy tool should be held on the opposite end to make the test more effective. An unbroken bolt should give a ringing sound while a broken bolt will give a hollow sound. Replace broken stay bolts.
36. Examine manholes, reinforcing plates and nozzles or other connections flange or screwed into the boiler for evidence of defects both internally and externally. If possible, observation should be made from the inside of the boiler as to whether connections are properly made to the boiler. Examine all openings leading to external attachments, such as water column connections, low water fuel cutoff devices, openings in dry pipes and openings to safety valves to ensure they are free from obstruction.
37. Fire Surfaces:
   a. Examine for bulging and blistering:
   b. Inspect all plate or tube surfaces exposed to the fire also check whether any part of the boiler has become deformed by bulging and blistering.
38. Cracks:
   a. Examine vulnerable areas such as ligaments between the holes on water tube boiler drums, between tube holes on tube sheet of firetube boilers, at any flange where repeated flexing of the plate occurs during operation and around welded pipe and tube connections.
   b. Lap joint boilers are subject to cracking where plates lap in the longitudinal seam. If there is any evidence of leakage or other distress at this point, the inspector should thoroughly examine the area to determine whether cracks exist in seams. REPAIR OF LAP JOINT CRACKS ON LONGITUDINAL SEAMS IS PROHIBITED.
39. Corrosion:
   a. Inspect for corrosion.
   b. When active corrosion is found, provide advice to correct as necessary.
40. Grooving:
   a. Inspect for grooving. Examine as construction permits all flange surfaces, particularly the flanges of unstayed heads.
   b. Provide corrective advice for any defects found.
41. Firetubes: Examine closely for reduction in thickness near or at tube ends.
42. Water tubes:
   a. Inspect for corrosion, erosion, bulges, cracks, or any evidence of defective welds.
   b. Examine short tubes and nipples used to join drums and headers, there is a tendency for fuel and ash to lodge in these areas and corrosion is likely in the presence of moisre.
43. Blowoff Piping:
   a. Inspect blowoff piping connections and fittings.
   b. Determine that blowout piping is properly secured and discharges at a safe point.
44. Brush all tubes clean of scale.
45. Brush plate surfaces clean, use vacuum cleaner.
46. Refill boiler with water and chemicals if boiler is to be put back in service or if wet- lay-ups are to be employed.
47. All safeties, interlocks, and alarms operate correctly in both automatic and manual operating modes. Verify proper sensor installation and calibration. The DDC control system relies on input from various sensors (such as temperature, pressure, and flow) in order to achieve the desired system operation. If sensors are not located correctly, or the measured value from any sensor to the control algorithm is incorrect, the system will not respond as intended.
48. Actuation and Sequencing
   a. Verify that automatic isolation valves are installed and operate correctly, if applicable. (Automatic isolation valves are typically installed when multiple boilers are connected to a common supply header. Boilers with dedicated pumps generally do not have automatic isolation valves.) When an individual boiler is not operating, the isolation valve should be closed to prevent water from circulating through the unit.
   b. Verify proper boiler staging under normal operation, as well as under all failure and emergency operating modes, especially if multiple units are installed which are unequal in size.
   c. Verify that the boilers and primary/feed water pumps stage up and down per the sequence of operations under all operating modes.
   d. Verify that the time delay between boiler start/stop commands are per design.
   e. To remove residual heat from the boiler, the primary/feed water pump operation time delay, after the boiler is commanded OFF, is per design.
49. Setpoints and Reset Controls
   a. Verify that the system operates and maintains hot water supply temperature setpoint under all operating modes, including automatic, manual, and failure/emergency modes.
   b. Verify proper coordination between individual setpoints and reset strategies.
   c. Verify that the control algorithms generate the proper water temperature setpoint based on the reset parameters specifies in the sequence of operations.
   d. Verify that the reset parameters are optimized for the system. In addition, ensure the reset control strategy does not result in a return water temperature from the building loads, which can cause the flue gasses to condense in noncondensing boiler systems.
   e. Verify that the O2 trim controls, if applicable, operate to ensure that excess oxygen in flue gas is maintained at setpoint. If O2 trim controls are not installed, review flue gas report and verify the boiler was tuned at high-fire and at least one intermediate part-load operating point.
50. Control Accuracy and Stability
   A. Verify that all control loops stabilize within a reasonable amount of time (typically to 5 minutes) after a significant load change such as start-up or automatic/manual recovery from shut down.
51. Document results of functional testing.
52. Reporting:
53. During all tests the actual operating and maintenance practices should be noted by the Inspector and a determination made as to their acceptability.
54. Record Review: Review the boiler log and records of maintenance and feed water treatment to ensure that regular and adequate tests have been made on the boiler and controls.
55. Reports and Records:
   A. GSA Form 349, Inspection Report of Boiler, shall be prepared for each boiler when it is inspected.
   B. GSA Form 1034, Certification of Inspection, shall be issued when the boiler has been approved for operation. The original and one copy is required. The original is posted on or near the equipment and the copy is forwarded to the regional office, if required.
56. Conclusions: Any defects or deficiencies in condition, operating and maintenance practices of the boiler and auxiliary equipment should be discussed by the inspector with the owner or user at this time.

**Recommended Tools, Materials, and Equipment:**

1. Appropriate testing equipment.
2. Suitable chain and locks for securing isolation valves.
3. Appropriate chemicals and detergents (see standard card for details). Consult the Material Safety Data Sheets (MSDS) for hazardous ingredients and proper personal protective equipment (PPE).
4. Hydrostatic pump and safety valve gag
5. Respirator
6. Safety goggles
7. Scrapers, wire brush, cleaning materials. Consult the Material Safety Data Sheets (MSDS) for hazardous ingredients and proper personal protective equipment (PPE).
8. Tool Group C
9. Small vacuum cleaner or cleaning brush.
10. Safety signs
Burner, Gas - HVAC-BLR-03-01Y

Frequency: Annually

Application:

This standard applies to any boilers with burners that use Natural Gas as their fuel source. These can be either natural draft or forced draft type of boilers.

Special Instructions:

1. In addition to the procedure(s) outlined in this standard, the equipment manufacturer's recommended maintenance procedure(s) and/or instruction(s) shall be strictly adhered to.
2. Review manufacturer's instructions.
3. Verify that the annual inspections for the boiler have been satisfactorily performed.
4. As part of the combustion gas analysis, Nitrous Oxide (NOX) should be checked and compared with the local authority's requirements. Many areas now have maximum standards for NOX to assist in reducing pollution. Depending on the age of the boiler and burner, specific requirements may exist.
5. Some jurisdictions may require 3rd party (independent) combustion and operational testing to verify boiler and burner operation.

Parent of this Piece of Equipment
Boiler, Gas or Oil Unit Heater

Check Points:

1. Check boiler room for ventilation in accordance with the American Gas Association (AGA) burner requirements.
2. Check operation of all gas controls and valves including: manual gas shutoff; petal gas regulator; safety shutoff valve (solenoid); automatic gas valve; petal solenoid valve; butterfly gas valve, motor, and linkage to air louver; safety petal solenoid (if used.)
3. Check flue connections for tight joints and minimum resistance to air flow.
   (combustion chamber, flues, breaching, and chimney are clear before firing.)
4. Draft regulators require slightly negative pressure in the combustion chamber at maximum input.
5. On forced draft burners, gas manifold pressure requirements should correspond with modulating (butterfly) valve in full open position and stable at all other firing rates.
6. Take and record and record flue gas readings to determine boiler efficiency. Use manufacturer's instructions if available. If not, use attached table as a guide for performance criteria. If efficiency is low, check baffling and passes for short circuiting, and boiler for air infiltration. Adjust dampers and controls to optimize efficiency. Run test at following load points.
7. 100%, 70%, and 40% of rated full load for boilers having metering controls or modulation capacity at these load points.
8. At high and low fire rates on boilers equipped with OFF/LOW FIRE/HIGH FIRE control.
9. At single firing load point on boilers equipped with OFF/ON controls only.
10. Check burner for flashback and tight shutoff of fuel.
11. Check operation of automatic controls and combustion flame safeguards. Clean and adjust, if necessary.
12. Operation and adjustments should conform with manufacturer's instructions.

Recommended Tools, Materials, and Equipment:

1. Clean wiping cloths.
2. Tool Group C
3. Flue gas analyzer.
Burner, Oil - HVAC-BLR-04-01Y

Frequency: Annually

Application:

This standard applies to any boilers that use Fuel Oil as their fuel source. These can be either natural draft or forced draft type of boilers.

Special Instructions:

1. Review manufacturer’s instructions.
2. Verify that the annual inspections for the boiler have been satisfactorily performed.
3. As part of the combustion gas analysis, Nitrous Oxide (NOX) should be checked and compared with the local authority’s requirements. Many areas now have maximum standards for NOX to assist in reducing pollution. Depending on the age of the boiler and burner, specific requirements may exist.
4. Some jurisdictions may require 3rd party (independent) combustion and operational testing to verify boiler and burner operation.

Parent of this Piece of Equipment
Boiler, Gas or Oil Unit Heater

Check Points:

1. Test and inspect burner (with or without firing) at rated pressure for leaks.
2. Perform timed trial for ignition on pilots and burners in accordance with instructions in the programmer timer.
3. Check automatic controls and combustion flame safeguards for normal operation. There should be no presence of oil discharge, ignition or flame.
4. Check pre-ignition purging capability of burner, combustion chamber, boiler passes, and breaching. Stack dampers should be fully open during purge and light off period.
5. Check delivery of fuel in relation to its response to the ignition system. Examine electrodes for carbon buildup, discoloration, distortion, and burning of parts, clean and adjust as necessary.
6. Check ignition transformer to supply dependable arc, adjust and regulate as required for clearance and air gap.
7. Clean and adjust draft regulator and air shutter on a natural draft burner to ensure excess air quantities are minimum for complete combustion. Test with flue gas analyzer.
8. On mechanical draft burners clean and check power driven fan blower.
9. Check out forced draft fan, clean fan and fan housing, check bearings, pulleys and or couplings and adjust belt tension if required replace worn belts and lubricate pivot points on linkages as necessary.
10. Check and replace filters. Check and clean water separators, primary and secondary filters.
11. Clean, check operation, and adjust controls and safeties.
12. Burners designed to change firing rates automatically should be checked for adequate proportioning changes in fuel and air rates.
13. Check oil level sight glass to see that burner maintains proper oil level (within 1/3") at rated output.
14. Check to ensure that power cannot feedback and energize ignition devices or feed valves after a control shuts off burner.
15. Clean or replace nozzles or cups, and check for tight shutoff of fuel.
16. Check stacks for smoke or haze and adjust burner accordingly.
17. Take and record flue gas readings to determine boiler efficiency. Use manufacturer’s instructions if available. If not, use attached table as a guide for performance criteria. If efficiency is low, check baffling and passes for short circuiting, and boiler for air infiltration. Adjust dampers and controls to optimize efficiency. Tests should be run at the following load points:
   a. 100%, 70%, and 40% of rated full load for boilers having metering controls or modulation capacity at these load points.
   b. At the high and low fire rates on boilers equipped with OFF/LOW FIRE/HIGH FIRE control.
   c. At the single firing load point on boilers equipped with OFF/ON controls only.
### Performance Criteria for Oil Burners

**LIGHT OILS, Grade 2, Diesel Fuel, JP5, Navy Distillate**

<table>
<thead>
<tr>
<th>Percent Load</th>
<th>40.0%</th>
<th>70.0%</th>
<th>100.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide (CO₂)</td>
<td>10.5%</td>
<td>11.0%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oxygen (O₂)</td>
<td>6.0%</td>
<td>5.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Excess Air (XA)</td>
<td>40.0%</td>
<td>30.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Smoke Scale No.</td>
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<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**MEDIUM OILS, Grade 4, NFSo**

<table>
<thead>
<tr>
<th>Percent Load</th>
<th>40.0%</th>
<th>70.0%</th>
<th>100.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide (CO₂)</td>
<td>11.0%</td>
<td>12.0%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oxygen (O₂)</td>
<td>6.0%</td>
<td>5.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Excess Air (XA)</td>
<td>40.0%</td>
<td>30.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Smoke Scale No.</td>
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<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**HEAVY OIL, Grades 5 & 6**

<table>
<thead>
<tr>
<th>Percent Load</th>
<th>40.0%</th>
<th>70.0%</th>
<th>100.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide (CO₂)</td>
<td>12.0%</td>
<td>12.6%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oxygen (O₂)</td>
<td>6.0%</td>
<td>5.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Excess Air (XA)</td>
<td>40.0%</td>
<td>30.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Smoke Scale No.</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

1. Combustibles zero or negligible percent in flue gas.
2. Output (steam flow or water flow) where meters are available to correspond with combustion level not less than 100% of rated capacity at rated load.

### Performance Criteria for Oil Burners

3. Boiler section outlet flue gas temperature is not more than 30°F (17°C) higher than rated. When expected gas temperature is not known, manufacturer should be contacted for typical conditions for type boiler being tested.

4. Boiler section outlet flue gas temperature should not be more than 150°F to 180°F (84°C to 100°C) higher than corresponding saturated steam temperature for water tube boilers and 100°F to 125°F (56°C to 70°C) for firetube boilers.

5. Excess air within 5 percent of manufacturer's expected performance level

6. Feedwater temperature, burner atomizing pressure, fuel oil viscosity at the burner, draft loss and combustion appearance in accordance with manufacturer's data or be close to industry standards.

### Recommended Tools, Materials, and Equipment:

1. Varsol and rags. Use Varsol in well ventilated area! Varsol must be disposed of as a hazardous waste. Refer to Appendix G for the Universal Waste Guide.
2. Clean wiping cloths.
3. Flue gas analyzer.
4. Tool Group C
5. Lubricants. Consult the Material Safety Data Sheet (MSDS) for hazardous ingredients and proper Personal Protective Equipment (PPE).

END OF APPENDIX A