**Texas Commission on Environmental Quality**

**Air Quality Standard Permit for Boilers (AQSPB) Checklist**

| Site Name: | | | RN Number: | |
| --- | --- | --- | --- | --- |
| Unit Name: | | | EPNs: | |
| The following checklist covers all boilers greater than 40 MMBtu/hr requested to be authorized at any site in the state of Texas under the [AQSPB](http://www.tceq.texas.gov/permitting/air/nav/standard.html). Note that the boiler still needs to be in compliance with the requirements of [30 TAC Chapter 117](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=117), Control of Air Pollution from Nitrogen Compounds, if applicable. Maintenance, startup, and shutdown (MSS) emissions must be authorized under the AQSPB. Fugitive components associated with the boiler can also be authorized under the AQSPB. Any ammonia storage tanks, piping, and other equipment necessary to supply ammonia to a selective catalytic reduction (SCR) unit can be authorized under the AQSPB. Pollution control cannot be authorized under, or in tandem with, the AQSPB. If you have any questions, please [contact the TCEQ](http://www.tceq.texas.gov/about/directory/air-directory.html#airpermits), Air Permits Division.  Please complete a separate checklist for each boiler. If boilers are identical (all characteristics, uses, and physical features are exactly the same), this checklist can be completed one time for that group of boilers, but list all individual boiler EPNs and names above. | | | | |
| **Definitions** | | | | |
| **Fuel Gas**: Any gas which is generated at a petroleum refinery or a petrochemical plant, as defined by Standard Industrial Classification (SIC) Code 28, and any blends of those gases with natural gas. Fuel gas must also comply with the fuel limitations specified in subsection (4)(A). | | | | |
| **Temporary Boiler**: A boiler, as a replacement for an existing boiler or as an additional source that is installed and operated for no more than 180 days at a site. At least 12 months must pass between authorizations for a temporary boiler that will perform substantially the same purpose at the site. However, if the boiler will be used for a different purpose at the site, the owner or operator must seek authorization within the 12 month period. | | | | |
| **Annual Capacity Factor** (ACF): The ratio between the actual heat input during a calendar year and the potential heat input had the boiler been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. | | | | |
| **Boiler Identifying Features** | | | | |
| Boiler Type:  Fire Tube  Water Tube | | | | |
| Heat Input: | | MMBtu/hour: | | |
| Boiler Horsepower: |  | based on evaporation of 34.5 lb/hr of steam from | | |
| 5 square feet of heating surface at 212o Fahrenheit. | | | | |
| How many identical boilers are being claimed? | | | | |
| Do the boilers have the same common header? | | | | YES  NO |
| Operating temperature of the boiler: °F | | | | |
| Boiler feed water temperature: °F | | | | |
| Peak Efficiency of Boiler % of it rating | | | | |
| Fuel Used: | | | | |

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| **Section I: Requirements that Apply to All Boilers Under the AQSPB** | | |
| --- | --- | --- |
| **Rule** | **Applicable Requirement** | |
| (1)(A) | Will heat input for the boiler be greater than 40 MMBtu/hr?  *If YES, continue.*  *If NO, STOP. The boiler cannot be authorized under the AQSPB.* | YES  NO |
| (1)(B) | Is this project a new major source or a major modification with respect to Prevention of Significant Deterioration (PSD) or Nonattainment New Source Review (NNSR)?  *If YES, STOP. The boiler cannot be authorized under the AQSPB.*  *If NO, continue.* | YES  NO |
| (4)(A)(v) | Is the boiler an air pollution control device?  *If YES, STOP. The boiler cannot be authorized under the AQSPB.*  *If NO, continue.* | YES  NO |
| **Rule** | **Part 1 (This row is used for reference on the checklist only.)** | |
| (3) | Check the appropriate box if the following administrative requirements have been met: | |
| (3)(A) | Registration of boiler in accordance with 30 TAC 116.611: | |
| (3)(A) | Submittal of calculated short- and long-term emissions as specified in (3)(A) | |
| (3)(B) | Registration compliance with fees stipulated under 30 TAC 116.614. | |
| (3)(C) | Obtaining written approval of registration prior to construction or operation. | |
| (3)(D) | Compliance with applicable conditions, including testing and performance standards stipulated under Title 40 Code of Federal Regulations (40 CFR) Part 60. Subparts Da, Db, and Dc | |
| (3)(E) | Compliance with applicable requirements of 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds. | |
| (4)(A)(i) | Are references to emission limits and boiler sizes in this standard permit based on the higher heating value of the fuel? | YES  NO |
| (4)(A)(ii) | Will fuel fired in the boiler meet the specifications outlined under “ Definitions” above and also comply with 40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries, if applicable? | YES  NO |
| (3)(A) and (3)(B) | Except for 116.110(a)(1), does the boiler meet the [general requirements for standard permits](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=116&sch=F&rl=Y)? | YES  NO |
| (3)(A) | Is [Form PI-1S](http://www.tceq.texas.gov/permitting/air/forms/newsourcereview/nsr_sp_forms.html)included in this registration? | YES  NO |
| (3)(A) | Are maximum lb/hr emission calculations, maximum tpy emission calculations, and [Table 1(a)](http://www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10153tbl.pdf)included in this registration?  *Calculation spreadsheets for boiler exhaust emission calculations are available on the TCEQ website.* | YES  NO |

**Texas Commission on Environmental Quality**

**Air Quality Standard Permit for Boilers (AQSPB) Checklist**

| **Section I: Requirements that Apply to All Boilers Under the AQSPB** | | |
| --- | --- | --- |
| **Part 1 (This row is used for reference on the checklist only.)** | | |
| **Rule** | **Applicable Requirement** | |
| (4)(D)(i) and (4)(D)(ii) | During MSS, are:   * NOx emissions ≤ 0.10 lb/MMBtu * CO emissions ≤ 500 parts per million by volume dry (ppmvd)? | YES  NO |
| (4)(D)(iv) | During MSS, is:   * warm startup ≤ four hours * cold startup ≤ eight hours * shutdown ≤ one hour? | YES  NO |
| (4)(D)(iii) | Does opacity exceed limits in [30 TAC Chapter 111](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=111) during MSS? | YES  NO |
| (3)(A) | Is the annual capacity factor calculation included in this registration? | YES  NO |
| (4)(B)(i) | Is compliance with emission limits based on:   * one-hour block averages for NOx * three hour block averages for CO? | YES  NO |
| (4)(B)(v) | During normal operations, are CO emissions ≤ 50 ppmvd, corrected to 3% oxygen? | YES  NO |
| (4)(B)(vii) | Is opacity determined by 40 CFR Part 60, Appendix A, [Method 9](https://www3.epa.gov/ttn/emc/meetnw/2010/m9altbg.pdf), for:   * initial compliance testing * testing at least once per year, thereafter? | YES  NO |
| (4)(B)(vii) | Is the opacity of emissions ≤ 5%, averaged over a six-minute period? | YES  NO |
| (4)(A)(i) | Are all emission calculations and the maximum heat input based on the higher heating values of fuels? | YES  NO |
| (4)(A)(ii) | Is gaseous fuel:   * fuel gas and/or natural gas only * sulfur content ≤ 10 grains per 100 dry standard cubic feet (dscf) * total hydrogen sulfide content ≤ 10 grains per 100 standard cubic feet (scf) * < 50% hydrogen by volume * free of alkynes * higher heating value ≥ 900 Btu/scf? | YES  NO |
| (4)(A)(iii) | Is liquid fuel:   * used for ≤ 720 hours per calendar year * total sulfur content ≤ 0.05% by weight * waste solvent free? | YES  NO |

**Texas Commission on Environmental Quality**

**Air Quality Standard Permit for Boilers (AQSPB) Checklist**

| **Section I: Requirements that Apply to All Boilers Under the AQSPB** | | | |
| --- | --- | --- | --- |
| **Part 1 (This row is used for reference on the checklist only.)** | | | |
| **Rule** | **Applicable Requirement** | | |
| (4)(E) | Is the minimum boiler stack height calculation in this registration? | | YES  NO |
| (4)(E) | What is the minimum boiler stack height in feet? feet | | |
| (4)(E) | What is the actual boiler stack height in feet? feet | | |
| *If all the questions under Part 1 are answered YES, continue.*  *If any of the questions under Part 1 are answered NO, STOP. The boiler cannot be authorized under the AQSPB.* | | | |
| **Rule** | **Part 2 (This row is used for reference on the checklist only.)** | | |
| (3)(D) | Does the boiler comply with [40 CFR Part 60, Subpart Da](https://www.tceq.texas.gov/permitting/air/rules/federal/60/60hmpg.html)? | YES  NO  NA | |
| (3)(D) | Does the boiler comply with [40 CFR Part 60, Subpart Db](https://www.tceq.texas.gov/permitting/air/rules/federal/60/dbhp.html)? | YES  NO  NA | |
| (3)(D) | Does the boiler comply with [40 CFR Part 60, Subpart Dc](https://www.tceq.texas.gov/permitting/air/rules/federal/60/dchp.html)? | YES  NO  NA | |
| (3)(E) | Does the boiler comply with [30 TAC Chapter 117](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=117)? | YES  NO  NA | |
| (4)(A)(ii) | Does the boiler comply with [40 CFR Part 60, Subpart J](https://www.tceq.texas.gov/permitting/air/rules/federal/60/jhp.html)? | YES  NO NA | |
| *If all the questions under Part 2 are answered YES or NA, continue.*  *If any of the questions under Part 2 are answered NO, STOP. The boiler cannot be authorized under the AQSPB.* | | | |
| *The following address the possible choices under the AQSPB. Check the* ***one*** *box in the first column that applies, and complete the corresponding Sections indicated in the last column. If you have any questions, please* [*contact the TCEQ*](http://www.tceq.texas.gov/about/directory/air-directory.html#airpermits)*.* | | | |
| *Temporary boiler, <100 MMBtu/hr:* | | | |
| No SCR, no CEMS . Section II | | | |
| No SCR, CEMS with no shared stacks and no common stack Section II | | | |
| No SCR, CEMS with shared stacks or a common stack Section II | | | |
| SCR (CEMS required), CEMS with no shared stacks and no common stack Sections II and IV | | | |
| SCR (CEMS required), CEMS with shared stack or a common stack Sections II and IV | | | |
| *Temporary boiler, ≥ 100 MMBtu/hr maximum rated input:* | | | |
| CEMS required/no shared stacks and no common stack, no SCR Section II | | | |
| CEMS required/shared stacks or a common stack, no SCR Section II | | | |
| CEMS required/no shared stacks and no common stack, SCR Sections II and IV | | | |
| CEMS required/shared stacks or a common stack, SCR Sections II and IV | | | |

**Texas Commission on Environmental Quality**

**Air Quality Standard Permit for Boilers (AQSPB) Checklist**

| **Section I: Requirements that Apply to All Boilers Under the AQSPB** | | |
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| **Part 2 (This row is used for reference on the checklist only.)** | | |
| *Permanent boiler, <100 MMBtu/hr:* | | |
| No SCR, no CEMS Section III | | |
| No SCR, CEMS with no shared stacks and no common stack Section III | | |
| No SCR, CEMS with shared stacks or a common stack Section III | | |
| SCR (CEMS required), CEMS with no shared stacks and no common stack Sections III and IV | | |
| SCR, (CEMS required), CEMS with shared stacks or a common stack Sections III and IV | | |
| *Permanent boiler, ≥ 100 MMBtu/hr maximum rated input:* | | |
| CEMS required/no shared stacks and no common stack, no SCR Section III | | |
| CEMS required/shared stacks or a common stack, no SCR Section III | | |
| CEMS required/no shared stacks and no common stack, SCR Sections III and IV | | |
| CEMS required/shared stacks or a common stack, SCR Sections III and IV | | |
| **Rule** | **Section II: Requirements that Apply to All Temporary Boilers Under the AQSPB** | |
| (4)(B)(iii) | During normal operations, are NOx emissions ≤ 0.036 lb/MMBtu?  *If YES, continue.*  *If NO, STOP. The boiler cannot be authorized under the AQSPB.* | YES  NO |
| (5)(B)(vii) | Was stack testing performed on this temporary boiler at another site in the state of Texas, and was this stack testing acceptable to the TCEQ Regional Office with jurisdiction over the other site?  *If YES, and you are using the stack test emission results for emissions under this registration, attach supporting information.* | YES  NO |
| **Rule** | **Section III: Requirements that Apply To All Permanent Boilers Under the AQSPB** | |
| *The next three rows address the possible choices for NOx emission limits during normal operations. Check the* ***one*** *box that applies.* | | |
| (4)(B)(ii) | maximum heat input < 100 MMBtu/hr, annual capacity factor ≤ 0.30, ≤ 0.036 lb NOx/MMBtu | |
| (4)(B)(ii) | > 75% of the fuel heating value due to natural gas, ≤ 0.01 lb NOx/MMBtu | |
| (4)(B)(ii) | ≤ 0.015 lb NOx/MMBtu | |

**Texas Commission on Environmental Quality**

**Air Quality Standard Permit for Boilers (AQSPB) Checklist**

| **Section IV: Requirements that Apply To All Boilers Using an Ammonia or Urea Injection SCR for Boiler Exhaust Emission Controls Under the AQSPB** | | |
| --- | --- | --- |
| **Rule** | **Part 2 (This row is used for reference on the checklist only.)** | |
| *The next three boxes address ammonia storage. Check at least one box.* | | |
| (4)(C)(ii) | The site has an acceptable review under [40 CFR 68](http://www.ecfr.gov/cgi-bin/text-idx?SID=c686ce5659973b0546d71116b050e8fe&node=40:16.0.1.1.5&rgn=div5). | |
| (4)(C)(ii) | Ammonia is being stored on site in quantities less than the threshold values in 40 CFR 68, citation 68.130. | |
| (4)(C)(ii) | Ammonia is being stored on site in ≤ 20% by volume aqueous solution. | |
| **Rule** | **Part 3 (This row is used for reference on the checklist only.)** | |
| (4)(B)(vi) | During all operations, are ammonia emissions from the boiler ≤ 10 ppmvd, corrected to 3% oxygen? | YES  NO |
| (4)(C)(ii) | Are audio, olfactory, and visual checks for ammonia leaks performed at least once per day in the operating area?  *If all the questions under Part 3 are answered YES, Section IV is complete.*  *If any of the questions under Part 3 are answered NO, STOP. The boiler cannot be authorized under the AQSPB.* | YES  NO |