



Combined Heat and Power (CHP)

Frequently Asked Questions (FAQ)

1. What type of units are commonly used for CHP?

A. The most common units used for CHP applications are boilers, internal combustion engines and turbines. Each of these is capable of generating electricity and useful heat in the form of steam.

2. What Air Quality permits do CHP units require?

A. Any unit that emits a regulated pollutant is required to obtain a construction permit unless it meets one of the exemptions in 567 Iowa Administrative Code (IAC) 22.1(2). CHP units most often involve combustion of a fuel to generate heat. The combustion produces regulated pollutants such as nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM) and sulfur dioxide (SO₂).

3. What are some of the exemptions that might apply to my CHP unit?

A. Possible exemptions for CHP units include natural gas-fired units less than 10 mmBtu/hr, fuel oil fired units less than 1 mmBtu/hr, and internal combustion engines less than 400 HP. CHP units at farms may qualify for exemption 567 IAC 22.1(2)“d” if the power and steam generated is used onsite and not sent to the grid or to a separate facility. All of the exemptions can be accessed from the [Construction Permits Exemptions webpage](#).

4. Where can I find the application forms for a construction permit?

A. The construction permit application forms can be found on the [Construction Permitting Materials webpage](#). The instructions for filling out the forms are also included at this location.

5. Are there any federal rules that might apply to the CHP units?

A. The specific rules that apply to a unit depend on the type of unit. Boilers may be subject to New Source Performance Standards (NSPS) subparts Da, Db or Dc. Turbines may be subject to NSPS KKKK and engines may be subject to NSPS IIII. A complete analysis of the applicable rules will be made by the DNR during the application review.

6. What state rules might apply to a CHP unit?

A. The State of Iowa has several rules that may apply to a CHP unit including 0.6 lb/mmBtu PM, 40% opacity and 0.1 gr/dscf PM emissions. Again, DNR construction permit engineers will analyze which rules apply as they review the project.

7. Can the permit have output based limits rather than input based limits to take credit for efficiency?

- A. The DNR can use output based limits if they are allowed by the applicable federal rules. Many of the newer and updated federal rules have an optional output based emission limit. These allow the thermal and electrical output to be combined when determining compliance. The specific limits will depend on the unit being permitted.

8. Will my CHP units have to go through a dispersion modeling analysis during the application review?

- A. The decision to subject an application to dispersion modeling analysis depends on factors such as total emissions, facility location and past modeling status. The [construction permit application Form MD](#) steps through the decision process. Additional dispersion modeling information and guidance can be found on the [Dispersion Modeling webpage](#).

9. How long will it take to process the application?

- A. Each application must be evaluated individually with site specific conditions taken into account. Therefore the turnaround time will vary for each application. However, most projects can usually be processed in two months or less.

10. Can I start construction before I obtain the permits?

- A. Usually not. Facilities may begin construction before obtaining the permits only in limited circumstances as specified in 567 IAC 22.1(1)“c.” The eligibility for a project to use this rule is found in 567 IAC 22.1(1)“c”(1). Send an application and notice to the DNR before beginning construction. Units subject to NSPS, National Emission Standards for Hazardous Air Pollutants (NESHAP) or Prevention of Significant Deterioration (PSD) do not qualify for this provision. A facility may request a variance to begin construction if they do not qualify for 567 IAC 22.1(1)“c.” A variance is reviewed on a case-by-case basis by the Air Quality Bureau compliance staff. The requirements for a variance request are found at 567 IAC 21.2(1).

11. Will I have to test the equipment after construction?

- A. The decision on whether equipment will require stack testing is made during the review of the application. Some federal rules, which cannot be waived, automatically require stack tests. Additionally, the decision to require testing often depends on the size and impact of the proposed unit.

12. Who should I contact if I have questions about permitting a CHP unit or if I need help completing an application?

- A. You may contact any of the construction permit engineers at the Air Quality Bureau or call the help line at 1-877-AIR-IOWA (1-877-247-4692) if you have questions on applicability or completing an application.