The Federal and State Clean Air Acts and What they Mean for Prisons in Georgia

Environmental Compliance in Corrections

Presented by John Yntema

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The Clean Air Act
Prisons in Georgia

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Outline

- Why Air Quality?
- Air Quality Regulations
- Equipment Needing a Permit
  - Boilers
  - Generators
- Permitting: General Information
- Filling Out the Application
- Permit Review and Issuance Procedures
- Permit Fees

Why We Regulate Air Quality

- Air pollution, at excessive levels, is bad for human, animal, and plant health.
- Air pollution affects visibility and can have negative economic consequences.

Regulating Air Quality

- The state and federal Clean Air Acts require that air quality be regulated.
- Areas with very clean air are to be kept as pristine as possible.
- Areas with excessively polluted air (non-attainment areas) are required to improve.
- Areas with some pollution are to be kept from significantly deteriorating

Regulating Air Quality

- Atlanta has been non-attainment for ozone since the 1970s.
- Atlanta is now non-attainment for small particulate matter (PM 2.5)
- Other areas are non-attainment for ozone and/or small PM 2.5.
- Some rules affect only non-attainment areas.

State Air Quality Regulations

- Rule 391-3-1-.03 contains rules regarding permitting of stationary sources of air pollution (vehicles not included).
- Rule 391-3-1-.02 contains rules that limit emissions and/or set other requirements for equipment that emits air pollution.
- It is possible to be exempt from permitting, but still be subject to a rule in 391-3-1-.02.
- It is possible to need a permit but not be subject to a particular rule.

State Air Quality Regulations

- Rule 391-3-1-.03(1) and (2): Require that a state construction and operating permit be applied for and obtained for “any facility which may result in air pollution.”
- Rule 391-3-1-.03(3): Requires that a permit be obtained to add equipment.
- Rules 391-3-1-.03(6) states that permits are not required for installation of equipment that is listed as exempt or which will cause emissions less than specified thresholds.

State Air Quality Regulations

- The Federal Rule found in 40 CFR Part 70 & Rule 391-3-1-.03(10) contains the Clean Air Act Title V Operating Permitting requirements: Any source with emissions which could potentially exceed a Title V major source threshold must apply for and obtain a Title V major source permit or a synthetic minor (SM) permit.

Equipment Which May Need an Air Quality Permit

- Boilers: All boilers need to be permitted unless exempt, as indicated below:
  - Those firing natural gas and/or distillate fuel oil with under 10 Million Btu/hour input heat capacity (that is about 225 HP).
  - Those firing wood or any fuel oil with under 5 Million Btu/hour input heat capacity.
  - All others under 2.5 Million Btu/hour capacity.

Equipment Which May Need an Air Quality Permit

- Generators: Backup generators are exempt from air quality permitting.
- Generators located in a specified 45 county area in and around Atlanta, that are to be used for anything except backup power (except for maintenance), need a permit.
- Outside of that Atlanta area, a generator can be used for other generating purposes, for up to 200 hours per year, without needing a permit.

Equipment Subject to an Emissions Rule – Boilers

- All boilers are subject to Georgia Rule 391-3-1-.02(d), which sets a Particulate Matter (PM) emission limit. This limit is of little concern when the only fuels are gas and fuel oil.
- For boilers constructed 1972 or later, Rule(d) specifies a 20% opacity limit (visible emissions) This is easily complied with if firing natural gas or clean liquid fuel.
- For boilers firing solid fuel such as wood, a control device is required to comply with the PM limit and opacity limit. Testing & monitoring.

Equipment Subject to an Emissions Rule - Boilers

- Rule 391-3-1-.02(2)(lll) applies to boilers 10 MMBtu/hr and above, which are in the 45 county Atlanta area, installed May 1, 1999 or after. This sets a low NOx emission limit (30 ppm) for the summer months, which is only achievable if using a specially equipped boiler. Testing and monitoring are required if subject to Rule(lll).

Equipment Subject to an Emissions Rule - Boilers

- There are several federal New Source Performance Standards (NSPS) that apply to boilers. 40 CFR Part 60 Subpart Dc applies to units with input heat capacity of 10 MMBtu/hr and above and less than 100 MMBtu/hr, which were constructed after June 9, 1989.
- Subpart Dc sets SO2 emission limits for all boilers. If firing only natural gas, no documentation is required. If firing fuel oil, documentation of fuel purchases is required.

Equipment Subject to an Emissions Rule - Boilers

- For boilers firing fuel oil which is not distillate fuel, record keeping is more complicated.
- So, for boilers less than 30 MMBtu/hr, Subpart Dc requires only notification and fuel usage record keeping.
- Boilers 30 MMBtu/hr and above are subject to a Particulate Matter (PM) standard and an opacity standard.

Equipment Subject to an Emissions Rule - Boilers

- For boilers 30 MMBtu/hr and over, Subpart Dc requires initial testing and monitoring.
- If firing only natural gas and distillate fuel oil, the only emission limit is for opacity and only testing for opacity is required. Per amended Subpart Dc, periodic (at least annual) opacity testing is now required.

Equipment Subject to an Emissions Rule - Generators

- Rule 391-3-1-.02(2)(mmm) applies to all generators which are in the specified 45 county Atlanta area.
- For non-emergency units, it sets a low NOx emission limit which is only achievable by using add-on NOx control, such as selective catalytic regeneration (SCR), which requires ammonia or urea injection.
- Note: firing landfill gas does or digester gas allows emissions to comply without controls.

Equipment Subject to an Emissions Rule - Generators

- NSPS Subpart IIII for diesel engines and Subpart JJJJ for spark ignition engines, including engines powering emergency generators and fire pumps. These rules apply to new engines (manufactured after specified dates, depending on type and size).
- Emission limits for VOCs, NOx, CO and/or PM.
- Generally, the manufacturer will certify compliance with the limits.
- If not, initial and periodic testing is required.

Additional Emission Regulations

- State Rule 391-3-1-.02(2)(b) – “Visible Emissions” – This limits opacity to 40% from stacks not otherwise covered by an opacity limit.
- State Rule 391-3-1-.02(2)(n) – “Fugitive Dust” – This requires that sources take all reasonable precautions to prevent such dust from becoming airborne and limits opacity to 20%.

Title V Rules

- A prison has the potential to be a major source for Title V. Generally they have the potential to:
  - Emit over 100 tons per year (tpy) of SO2 because of Sulfur in the fuel and/or
  - Emit over 100 tpy of NOx from combustion. [25 tpy NOx if in the old 13-county Atlanta ozone Non-Attainment Area]
- To avoid Title V permitting, many prison facilities must operate under a synthetic minor (SM) permit, which generally limits annual fuel firing.

Procedures for Obtaining a State Air Quality Permit

- Fill out the standard state air quality application which you can download in WORD from the Air Branch web site:

  www.georgiaair.org
- Send two signed copies to Eric Cornwell, Permitting Program Manager, at the address on the application.
- An application for new equipment should be submitted as early as possible, but at least 3 months prior to needing it.
- If you need a permit sooner that that, call us.
- Call us even if you just want to talk about it, perhaps to make sure that you know exactly which forms to submit. A complete application will help assure a quick review.

Procedures for Obtaining a State Air Quality Permit

- For most new equipment, a 30 day Public Advisory must be held before a permit can be issued. If a hearing is requested (which is rare for prisons), it will be held and can delay permit issuance.
- You should get an acknowledgement letter from us within a week or so after submitting application, letting you know the name of the review engineer and other information.
- If you want to review a draft permit before it is issued, please ask us. Some engineers do it as matter of course; others do not.

Procedures for Obtaining a State Air Quality Permit

- **The Small Business Environmental Assistance Program (SBEAP)**: If you qualify as a small business, they can assist you in filling out an air quality application. I recommend this if you have never applied for a Georgia air quality permit before and are not going to hire an experienced air quality consultant. 404.362.4842 or 1-800-427-6255 or go to www.gasmallbiz.org

State Air Quality Permit Contents for Prisons

- Standard requirements that are in most Georgia air quality permits.
- Specific rule requirements for the particular facility.
- If a synthetic minor permit is needed for SO2, there will be an annual limit on fuel use.
- Testing: the permit may require initial testing to determine compliance with emission limits.

State Air Quality Permit Contents for Prisons

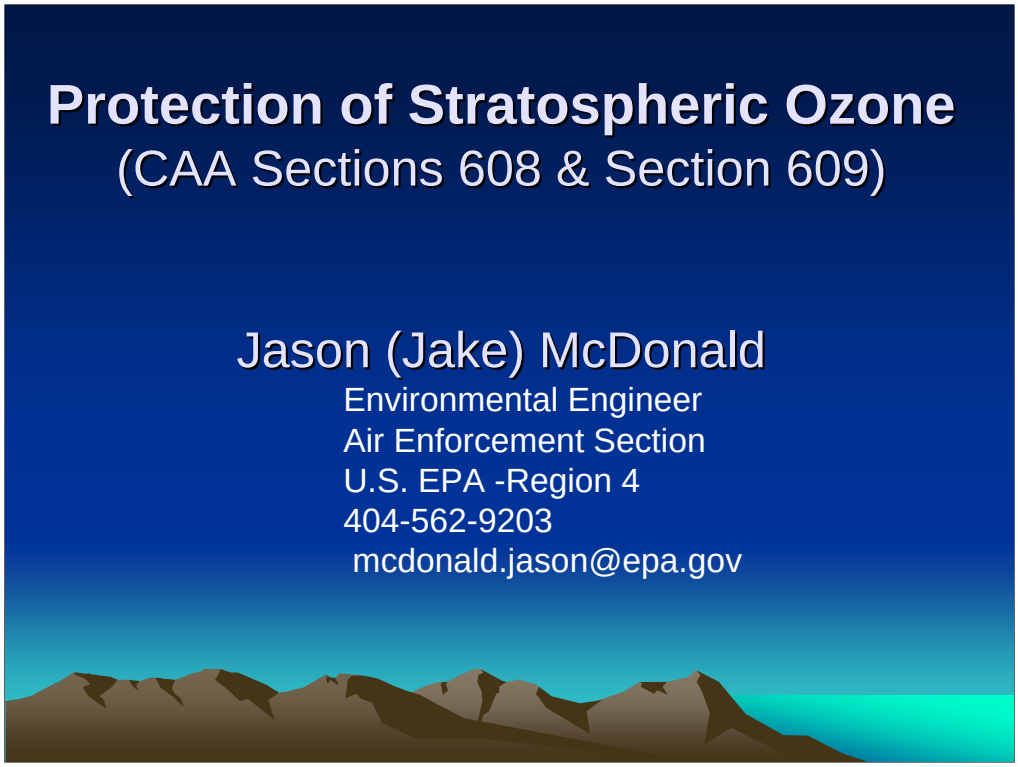
- Monitoring: the permits will include monitoring of, and monthly record keeping of, some or all of the following data:
  - Boiler fuel usage
  - Boiler fuel sulfur content
  - Generator hours of operation
- Some provision for reporting if a limit is exceeded or there is other non-compliance.

Permitted Prisons in Georgia, that I could find in our database

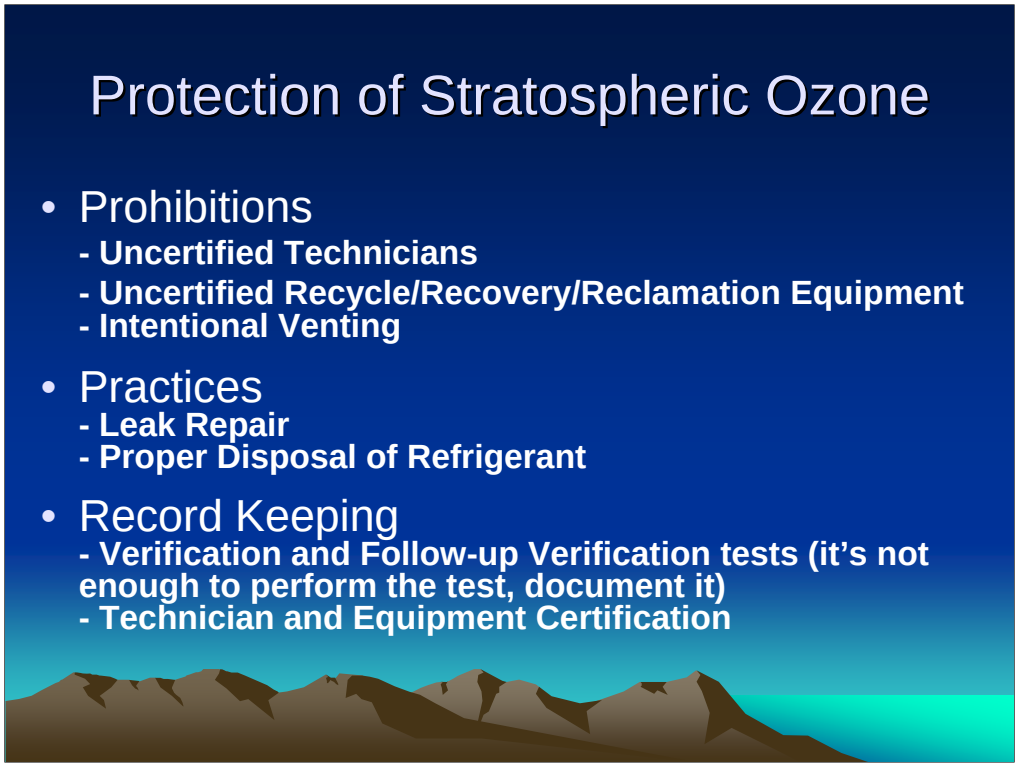
- Rogers State Prison - Reidsville
- Georgia Diagnostic and Classification Prison - Jackson
- Federal US Penitentiary - Atlanta
- Fayette County Justice Center
- Federal Correctional Institution - Jesup

Permit Fees

- There is no fee for submitting a permit application.
- Annual fees are based upon emissions of air pollutants - billed for the previous year's operation.
- For facilities with emissions less than Title V major source thresholds, there are minimum fees
  - SM fee for calendar year 2007 was $1500.
  - The NSPS fee for CY2007 was $1500.
  - These fees are additive.
- The Fee Manual is adjusted annually to assure the Title V Permitting Program is sustained.



I am not Jake McDonald



A properly implemented EMS will direct both facility staff and contractors to require technicians to present required certifications as a condition of employment.

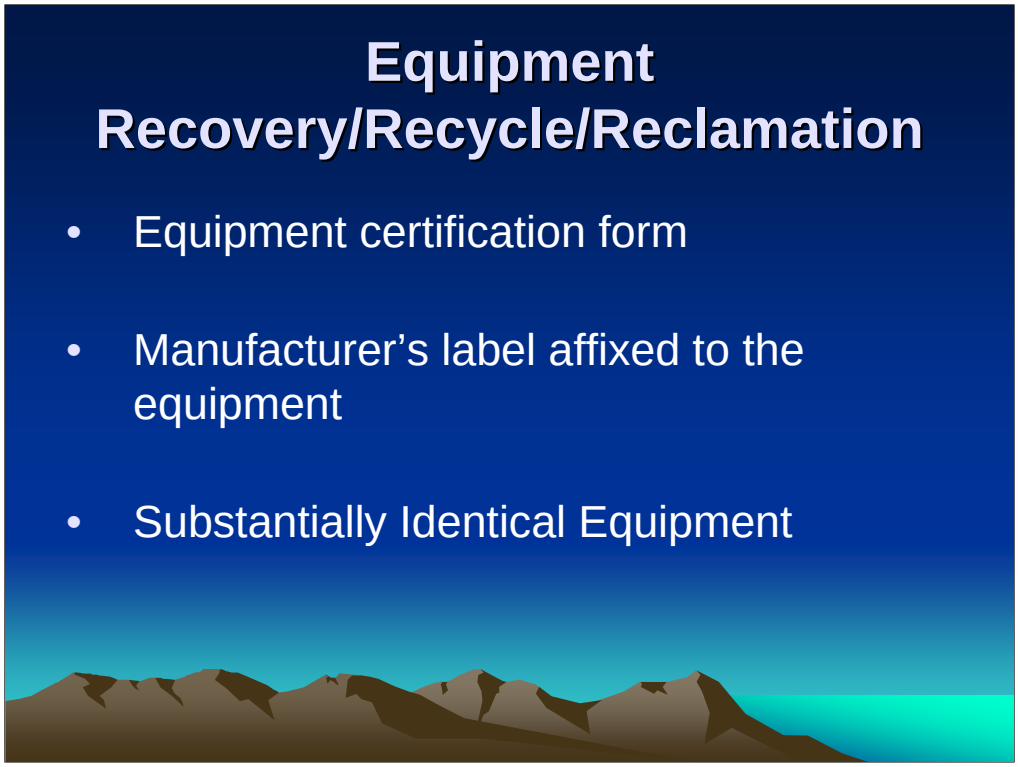
Uncertified Equipment- Yesterday the question was raised should an equipment notification be submitted when new recycling, recovery and reclamation equipment is purchased. The answer is yes because your equipment must be certified by an approved testing organization. The equipment must also have proper labeling.

An functional EMS provides procedural guidelines that reduces non-compliance due to employee or contractor turnover.

- knowingly accepting fraudulent statements of evacuation of small appliances is a violation.

Environmental Compliance is like the book of Genesis. Compliance or non-compliance is trackable. And like Adam and Eve every violation is begat by some an earlier mis-step. When a root cause analysis is performed the results will point back to a flaw in the EMS.

That's why most 609/608 inspections start with a review of site workers both staff and contract.



After addressing staffing my attention turns to your equipment..

These are the three items of interest. The last one is very rare.

Substantially Identical Equipment – if you are using modified **Recovery/Recycle/Reclamation equipment then you must have submitted an application to the EPA complete with supporting documentation. A record of this is required.**

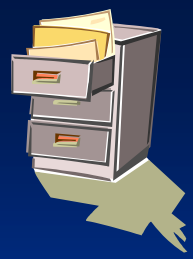
Even though other facilities may not have had the top document it is not necessarily an indicator of gross non-compliance. It does as I've said earlier raise an eyebrow.

Unlike the previous slide these items, your practices are an indicator of non-compliance. When talking with technicians or foremans in charge of your 608/609 program about these practices most inspectors will have an idea of what kind of shape your facility is in.

Refrigerant Tracking – maintain records of refrigerant added. Record of time refrigerant added to appliance could be an indication of a more serious problem. See planning for the future.

Audits- audit refrigerant records as a check against permissible leak rate limits.

Records



- Technician Certifications
- Quantity and type of refrigerant added by owner/operator to appliances > 50lbs
- Date of repair
- Type of Service
- Disposal ticket/invoice from reclamation vendor

Your practices, like Adam and Eve, Begat records. And in some cases a file cabinet full of them. But its here in these records that inspectors find over 90% of non-compliance .

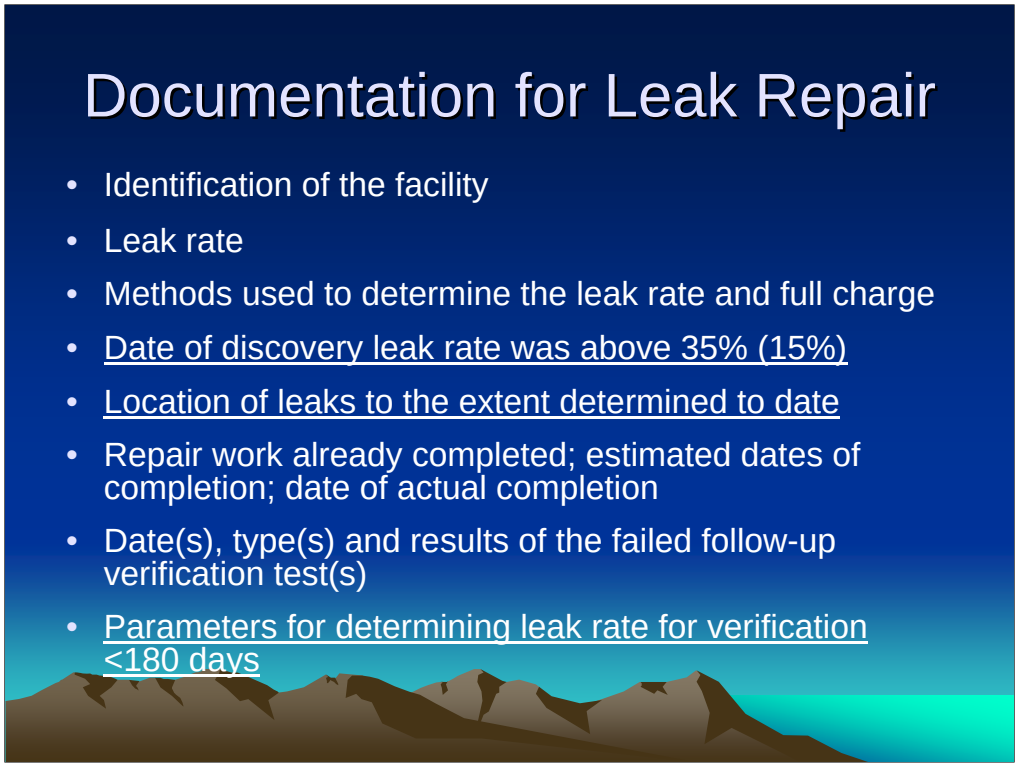
Your records are your best voice. If they are silent when they should be speaking you might not be in compliance. If you know this already I will be happy to assist you with an administrative enforcement letter on the way out.

Records

- Initial report for leaks that have not been repaired within 30 days
- Initial Verification Reports
- Follow-up Verification Reports
- Documents of work performed
- Retrofit or Retirement plans
- Requests for time extensions!!!

Here is a general overview of the Records our inspectors are going to be looking for. These are the records that are noticeably absent. They should be easily accessible. If not you get another tick mark on the EMS concern list.

You can eliminate most of these concerns through a regular auditing of your program.



Leak repair…every one has performed it where are the records to demonstrate it was done properly. *Go over list.

Again these are items that can be ferreted out during an internal audit. If you have a question about a record keep it then give your regional office a call for Compliance Assistance.

- Date of discovery: internal record audits and practices should provide appropriate dates. (15%) for comfort cooling systems

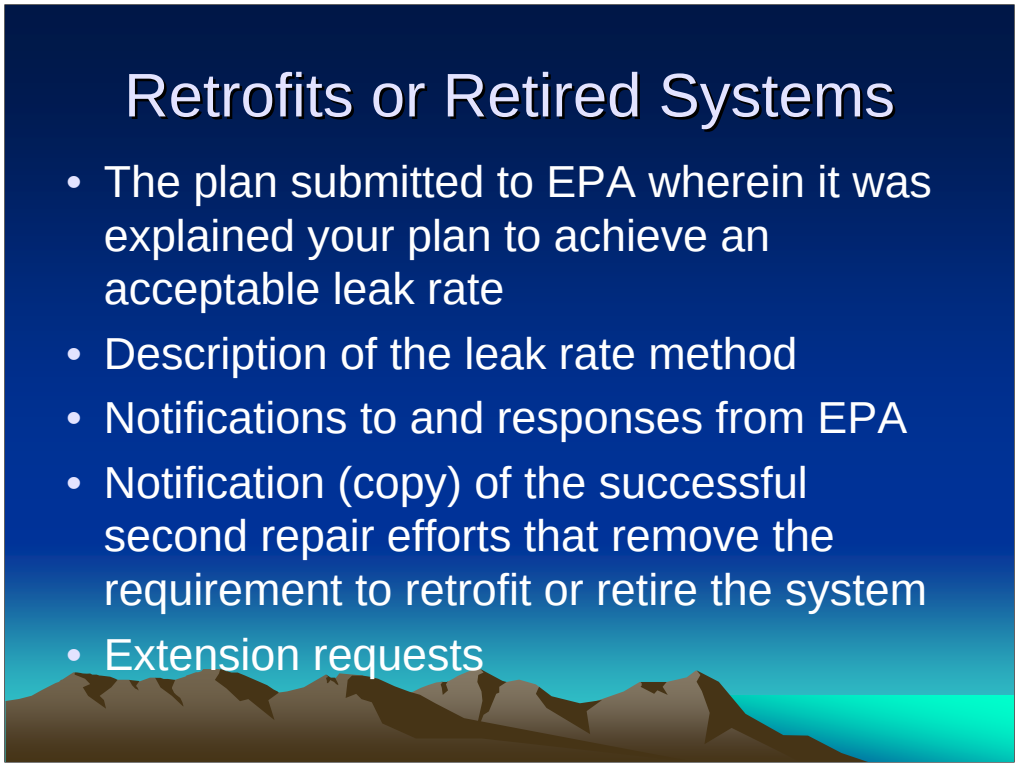
- Internal PM tracking and auditing can identify problematic equipment…Also equipment that may lead to radiological contamination should be noted in the record.

exposure or - If you intend, or think you could eventually attempt to verify within 180 days that the leak rate is below 35 percent, you must provide EPA the parameters on how the leak rate will be determined.

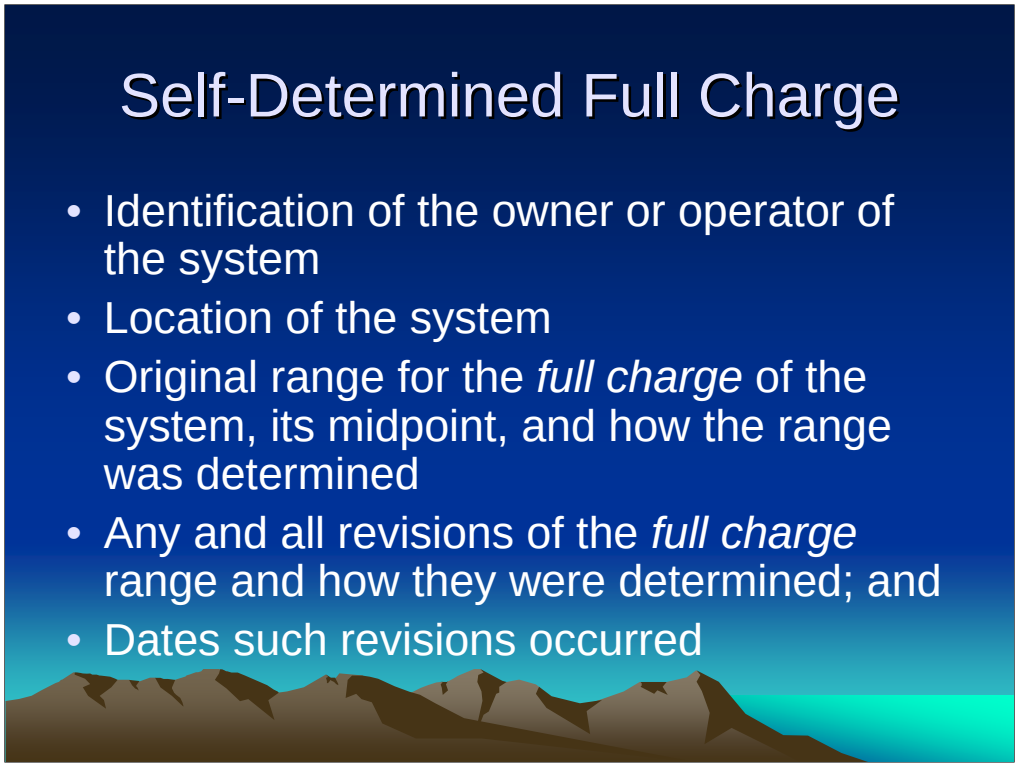
Records

- Dates of completion for repairs, extensions, etc.
- Extension notices granted by EPA
- A copy of the notification sent to EPA documenting second repair efforts were successful, and the facility is no longer required to retrofit or retire the system*

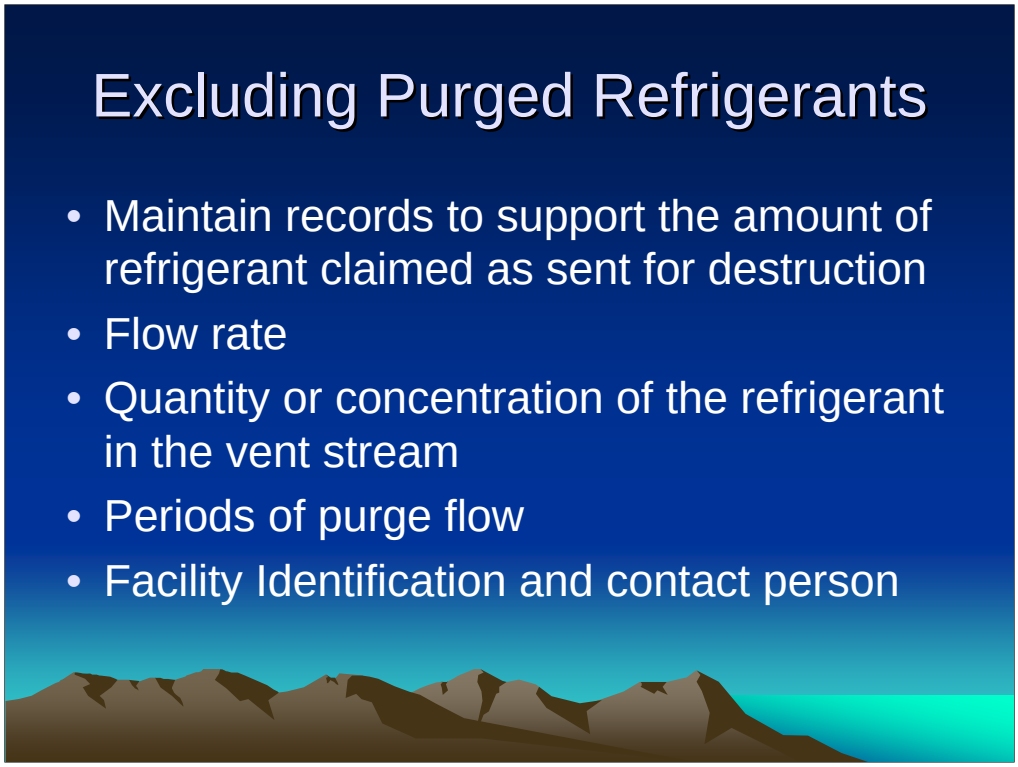
*If you are relieved of the requirement to retrofit or retire the equipment: In the case where follow-up verification of second repair efforts were able to bring the leak rate below 35%



If there is a determination to retrofit or retire a refrigerant system there are more records that are required to be kept in addition to the general leak repair records because as you look through this list those original records will be needed.

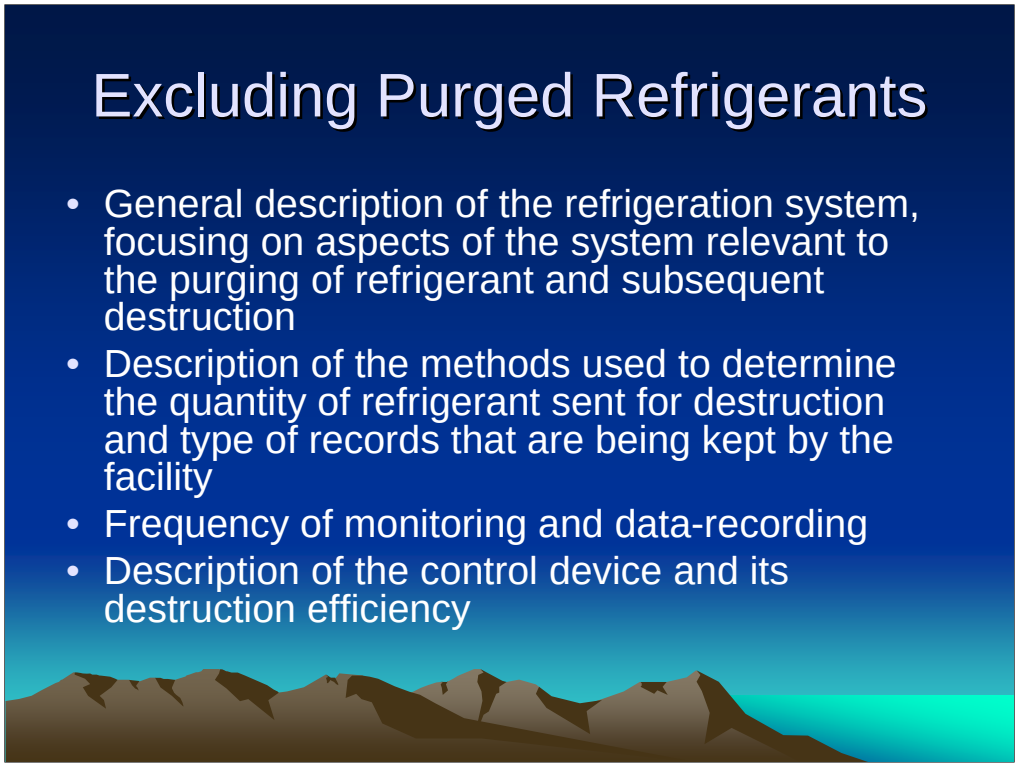


If a decision is made not to use the manufacturers documentation for the appliance's full charge then you have to document it from day 1.



If a decision is made to Exclude purged refrigerants that are destroyed from the annual leak rate calculations it must be documented. The inspectors will be doing a mass balance in their head.

Contact Person - including the address and telephone number;



That's all I have for now. If you have any questions I will try my best to answer them. If not today then give me a few days.