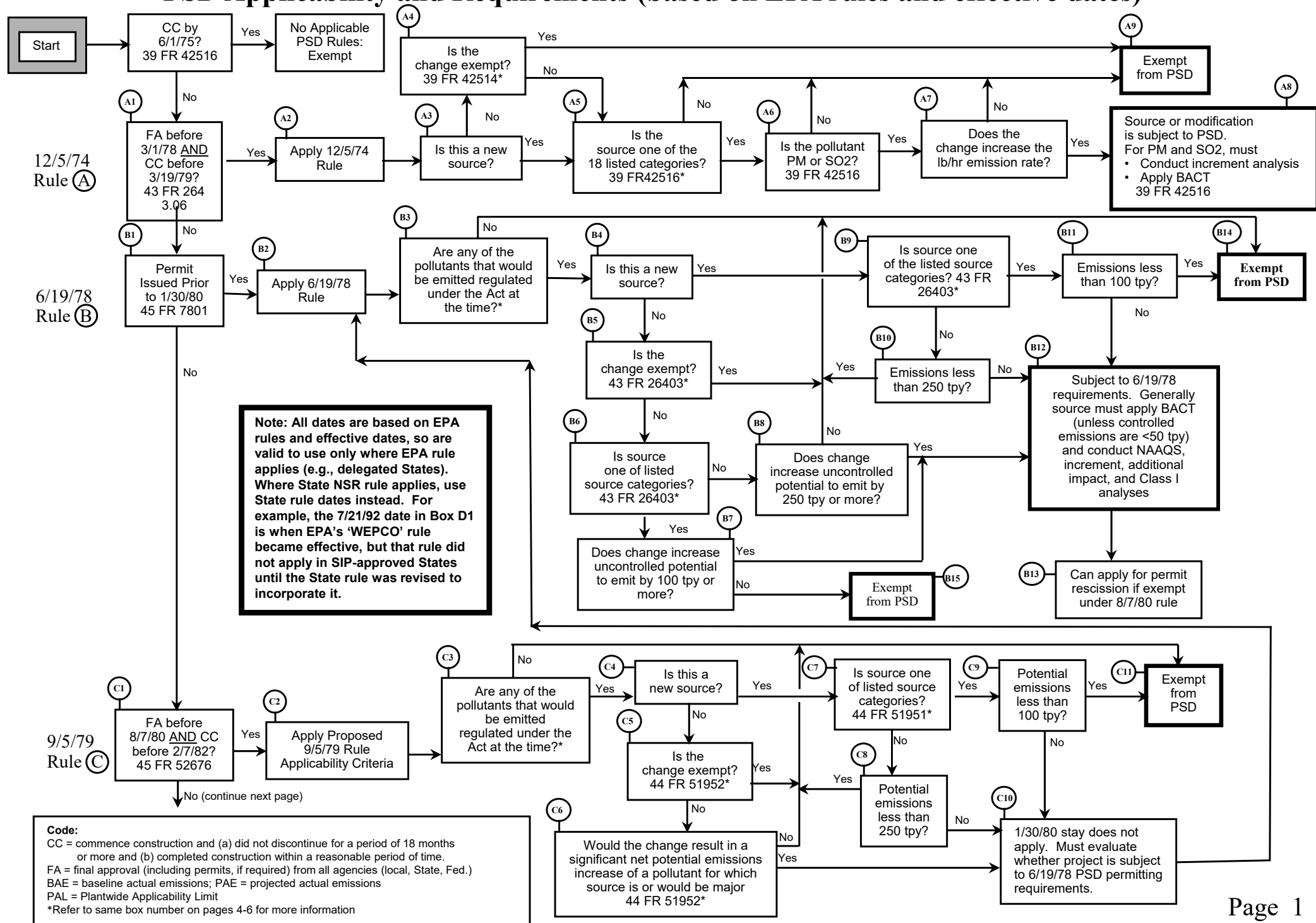
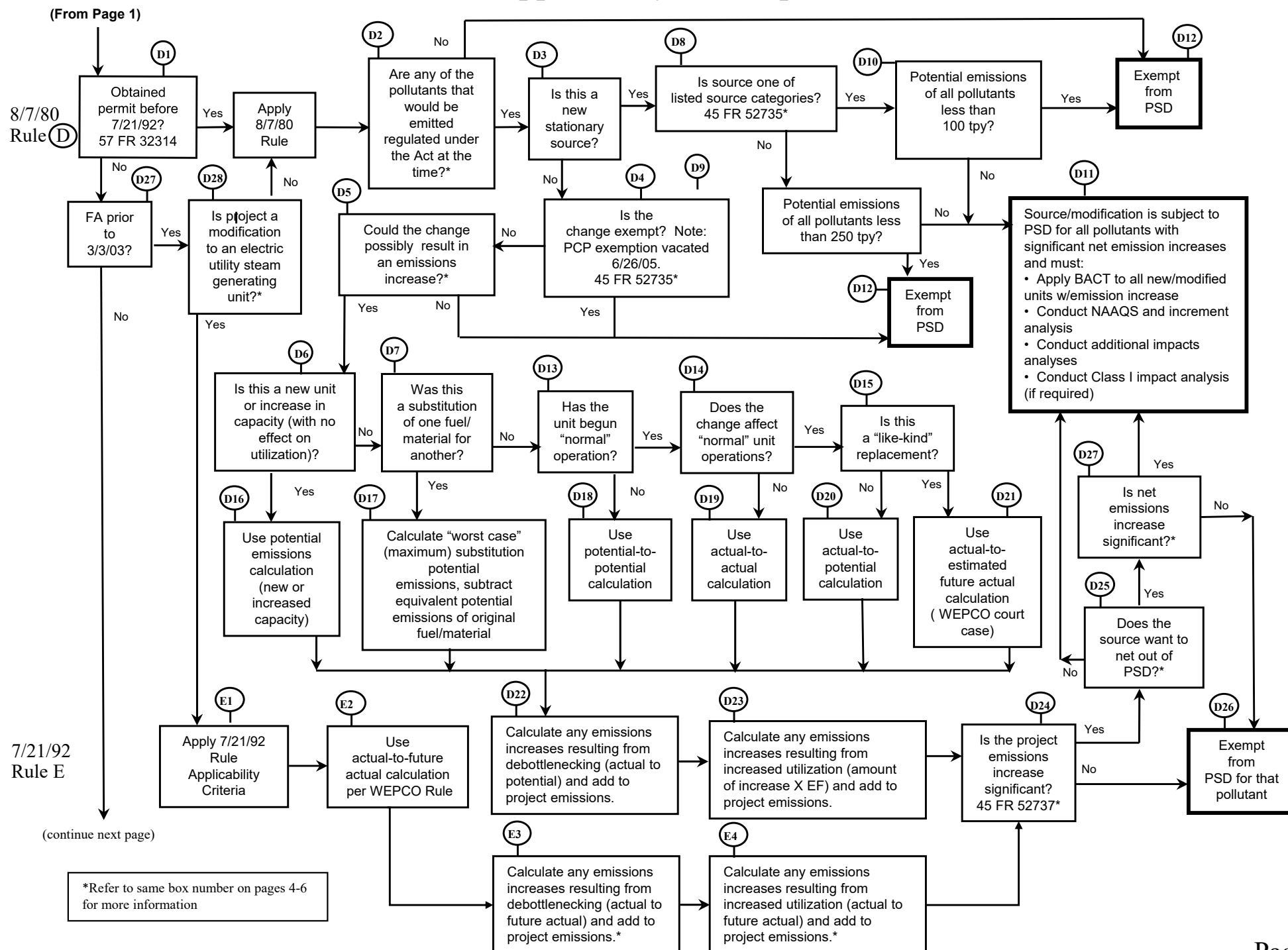


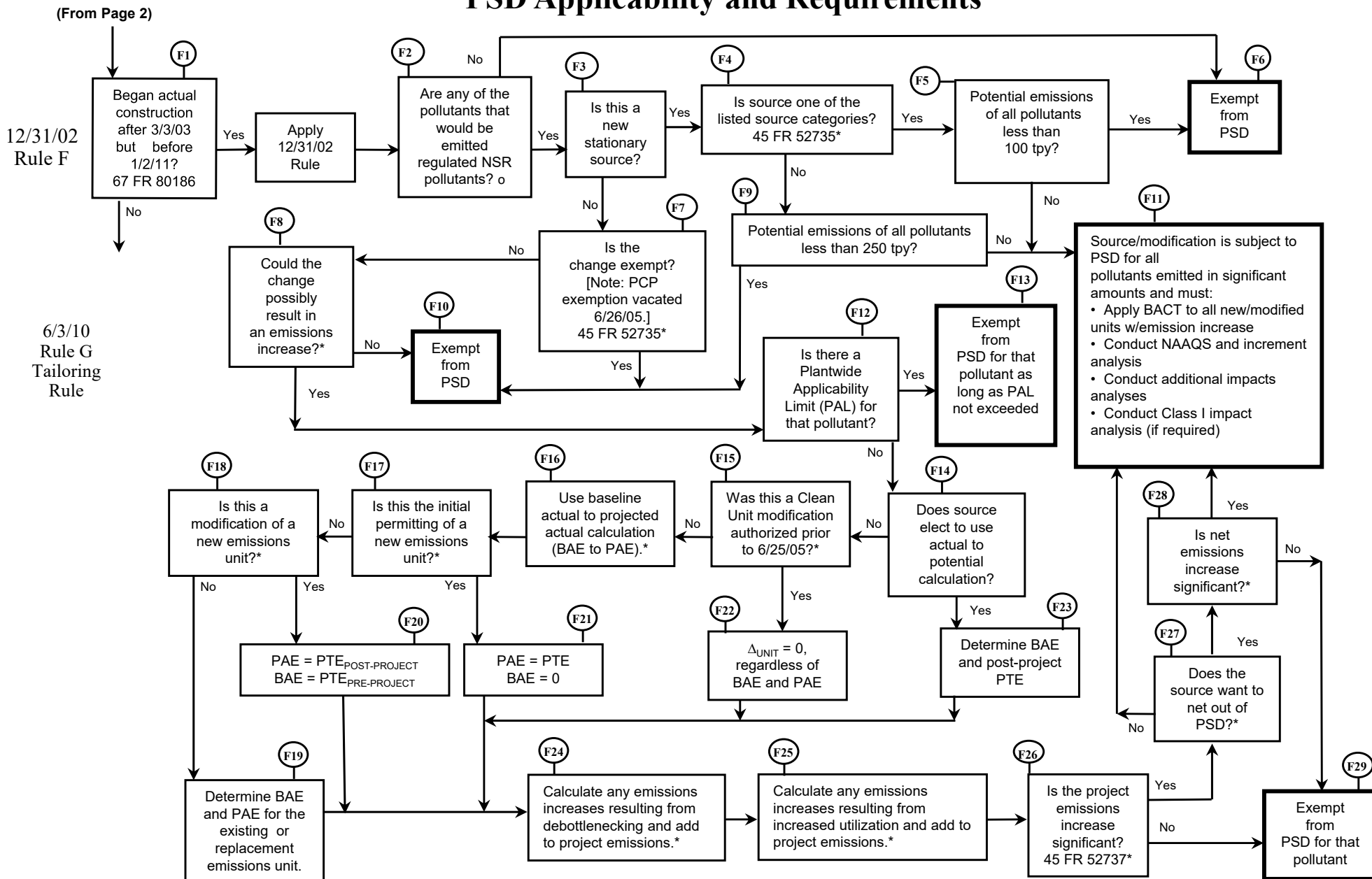
PSD Applicability and Requirements (based on EPA rules and effective dates)



PSD Applicability and Requirements



PSD Applicability and Requirements



PSD Applicability and Requirements

12/5/74 Rule

A4

- Routine maintenance, repair, and replacement shall not be considered a physical change, and
- The following shall not be considered a change in the method of operation:
 - An increase in the production rate, if such increase does not exceed the operating design capacity of the source;
 - An increase in the hours of operation;
 - Use of an alternative fuel or raw material, if prior to the effective date of a paragraph in this Part which imposes conditions on or limits modifications, the source is designed to accommodate such alternative use.

A5

- Fossil-fuel steam electric plants of more than 1000 million British thermal units per hour heat input
- Coal cleaning plants
- Kraft pulp mills
- Portland cement plants
- Primary zinc smelters
- Iron and steel mills
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators capable of charging more than 250 tons of refuse per 24-hour day
- Sulfuric acid plants
- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- By-product coke oven batteries
- Sulfur recovery plants
- Carbon black plants (furnace process)
- Primary lead smelters
- Fuel conversion plants

B3

- Sulfuric acid mist: 8/17/71
 - CO, NO₂, SO₂, PM (TSP), ozone (VOC), HC: 11/25/71 [36 FR 22384]
 - Mercury, asbestos, beryllium: 12/7/71
 - Fluorides: 10/22/74
 - Vinyl chloride: 12/24/75
 - Hydrogen sulfide and TRS: 9/24/76
 - Lead: 10/5/78 [43 FR 46258]
 - Benzene: 6/6/84 [49 FR 23512]
 - Arsenic: 7/20/83
 - Radionuclides: 2/6/85
 - Radon 222: 9/24/86
 - PM -10: 7/1/87
 - MWC emissions: 12/20/89
 - Municipal Solid Waste (MSW) landfill nonmethane organic compounds (NMOC): 5/30/91 [56 FR 24468]
 - Ozone depleting substances (ODS): 7/14/92 [57 FR 31242]
 - PM-2.5: 9/16/97 [62 FR 38652]
 - Mercury (Hg): 5/18/05 [70 FR 28606] (EPA confirmation requested)
- *****
- Hydrocarbons (HC) dropped 1/5/83 [48 FR 628]. All Hazardous Air Pollutants (HAP) not otherwise regulated were dropped from PSD review 11/15/90:
- ◆ Arsenic
 - ◆ Benzene
 - ◆ Lead compounds (elemental lead still regulated)
 - ◆ Mercury
 - ◆ Radionuclides, including Radon 222
 - ◆ Asbestos
 - ◆ Beryllium
 - ◆ Vinyl chloride

6/19/78 Rule

B5

- A physical change shall not include routine maintenance, repair, and replacement.
- A change in the method of operation, unless previously limited by enforceable permit conditions, shall not include:
 - An increase in the production rate, if such increase does not exceed the operating design capacity of the source;
 - An increase in the hours of operation;
 - Use of an alternative fuel or raw material by reason of an order in effect under Sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act;
 - Use of an alternative fuel or raw material, if prior to January 6, 1975, the source was capable of accommodating such fuel or material; or
 - Use of an alternative fuel by reason of an order or rule under Section 125 of the Act;
 - Change in ownership of the source.

B6 and B9

- Fossil fuel-fired steam electric plants of more than 250 MM Btu/hr heat input
- Coal Cleaning plants (with thermal dryers)
- Kraft pulp mills
- Portland cement plants
- Primary zinc smelters
- Iron and steel mill plants
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators capable of charging more than 250 tons of refuse per day
- Hydrofluoric, sulfuric, and nitric acid plants
- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- Coke oven batteries
- Sulfur recovery plants
- Carbon black plants (furnace process)
- Primary lead smelters
- Fuel conversion plants
- Sintering plants
- Secondary metal production plants
- Chemical process plants
- Fossil fuel boilers (or combinations thereof) totaling more than 250 MM Btu/hr heat input
- Petroleum storage and transfer units with a total storage capacity exceeding 300 thousand barrels
- Taconite ore processing plants
- Glass fiber processing plants
- Charcoal production plants

C3

- Sulfuric acid mist: 8/17/71
 - CO, NO₂, SO₂, PM (TSP), ozone (VOC), HC: 11/25/71 [36 FR 22384]
 - Mercury, asbestos, beryllium: 12/7/71
 - Fluorides: 10/22/74
 - Vinyl chloride: 12/24/75
 - Hydrogen sulfide and TRS: 9/24/76
 - Lead: 10/5/78 [43 FR 46258]
 - Benzene: 6/6/84 [49 FR 23512]
 - Arsenic: 7/20/83
 - Radionuclides: 2/6/85
 - Radon 222: 9/24/86
 - PM -10: 7/1/87
 - MWC emissions: 12/20/89
 - Municipal Solid Waste (MSW) landfill nonmethane organic compounds (NMOC): 5/30/91 [56 FR 24468]
 - Ozone depleting substances (ODS): 7/14/92 [57 FR 31242]
 - PM-2.5: 9/16/97 [62 FR 38652]
 - Mercury (Hg): 5/18/05 [70 FR 28606] (EPA confirmation requested)
- *****
- Hydrocarbons (HC) dropped 1/5/83 [48 FR 628]. All Hazardous Air Pollutants (HAP) not otherwise regulated were dropped from PSD review 11/15/90:
- ◆ Arsenic
 - ◆ Benzene
 - ◆ Lead compounds (elemental lead still regulated)
 - ◆ Mercury
 - ◆ Radionuclides, including Radon 222
 - ◆ Asbestos
 - ◆ Beryllium
 - ◆ Vinyl chloride

C5

- A physical change shall not include routine maintenance, repair, and replacement.
- A change in the method of operation, unless previously limited by enforceable permit conditions, shall not include:
 - Use of an alternative fuel or raw material by reason of an order under Sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974, (or any superseding legislation), a prohibition under the Power Plant and Industrial Fuel Use Act of 1978 (or any superseding legislation), or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;
 - Use of an alternative fuel or raw material, if prior to January 6, 1975, the source was capable of accommodating such fuel or material;
 - Use of an alternative fuel by reason of an order or rule under Section 125 of the Act;
 - Change in ownership of the source; or
 - Use of refuse-derived fuel generated from municipal solid waste.

9/5/79 Rule

C6

Significance Levels (44 FR 51937)

- Carbon monoxide: 100 tpy
- Nitrogen dioxide: 10 tpy
- Total suspended particles: 10 tpy
- Sulfur dioxide: 10 tpy
- Ozone: 10 tpy of volatile organic compounds
- Lead: 1 tpy
- Mercury: 2 tpy
- Beryllium: 0.004 tpy
- Asbestos: 1 tpy
- Fluorides: 0.02 tpy
- Sulfuric acid mist: 1 tpy
- Vinyl chloride: 1 tpy
- Total reduced sulfur:
 - Hydrogen sulfide: 1 tpy
 - Methyl mercaptan: 1 tpy
 - Dimethyl sulfide: 1 tpy
 - Dimethyl disulfide: 1 tpy
- Reduced sulfur compounds:
 - Hydrogen sulfide (see above)
 - Carbon disulfide: 10 tpy
 - Carbonyl sulfide: 10 tpy

Major Modification Potential to Emit (44 FR 51952)

“Potential to emit” means the capability at maximum design capacity to emit a pollutant after the application of air pollution control equipment. Annual potential shall be based on the maximum annual rated capacity of the stationary source assuming continuous year round operation. Enforceable permit conditions on the type of materials combusted or processed may be used in determining annual potential. Secondary emissions do not count in determining annual potential. Fugitive emissions also do not count, except with respect to the following stationary sources and then only to the extent quantifiable:

- Coal cleaning plants
- Kraft pulp mills
- Portland cement plants
- Primary zinc smelters
- Iron and steel mill plants
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators

- Hydrofluoric, sulfuric, or nitric acid plants
- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- Coke oven batteries
- Sulfur recovery plants
- Carbon black plants
- Primary lead smelters
- Fuel conversion plants
- Sintering plants
- Secondary metal production plants
- Chemical process plant
- Fossil fuel-fired boilers
- Petroleum storage and transfer units
- Taconite ore processing plants
- Glass fiber processing plants
- Charcoal production plants
- Fossil fuel-fired steam electric plants
- Any other stationary source category which, at the time of the applicability determination, is being regulated under Section 111 or 112 of the Act.

C7

- Fossil fuel-fired steam electric plants of more than 250 MM Btu/hr heat input
- Coal Cleaning plants (with thermal dryers)
- Kraft pulp mills
- Portland cement plants
- Primary zinc smelters
- Iron and steel mill plants
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators capable of charging more than 250 tons of refuse per day
- Hydrofluoric, sulfuric, and nitric acid plants
- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- Coke oven batteries
- Sulfur recovery plants
- Carbon black plants (furnace process)
- Primary lead smelters
- Fuel conversion plants
- Sintering plants
- Secondary metal production plants
- Chemical process plants
- Fossil fuel boilers (or combinations thereof) totaling more than 250 MM Btu/hr heat input
- Petroleum storage and transfer units with a total storage capacity exceeding 300 thousand barrels
- Taconite ore processing plants
- Glass fiber processing plants
- Charcoal production plants

D2

- Sulfuric acid mist: 8/17/71
- CO, NO₂, SO₂, PM (TSP), ozone (VOC), HC: 11/25/71 [36 FR 22384]
- Mercury, asbestos, beryllium: 12/7/71
- Fluorides: 10/22/74
- Vinyl chloride: 12/24/75
- Hydrogen sulfide and TRS: 9/24/76
- Lead: 10/5/78 [43 FR 46258]
- Benzene: 6/6/84 [49 FR 23512]
- Arsenic: 7/20/83
- Radionuclides: 2/6/85
- Radon 222: 9/24/86
- PM -10: 7/1/87
- MWC emissions: 12/20/89
- Municipal Solid Waste (MSW) landfill nonmethane organic compounds (NMOC): 5/30/91 [56 FR 24468]
- Ozone depleting substances (ODS): 7/14/92 [57 FR 31242]
- PM-2.5: 9/16/97 [62 FR 38652]
- Mercury (Hg): 5/18/05 [70 FR 28606] (EPA confirmation requested)

Hydrocarbons (HC) dropped 1/5/83 [48 FR 628].

All Hazardous Air Pollutants (HAP) not otherwise regulated were dropped from PSD review 11/15/90:

- | | |
|---|------------------|
| ◆ Arsenic | ◆ Asbestos |
| ◆ Benzene | ◆ Beryllium |
| ◆ Lead compounds (elemental lead still regulated) | |
| ◆ Mercury | ◆ Vinyl chloride |
| ◆ Radionuclides, including Radon 222 | |

D24 & D27 (45 FR 52737)

- Carbon monoxide: 100 tpy
- Nitrogen oxides: 40 tpy
- Sulfur dioxide: 40 tpy
- Particulate matter: 25 tpy
- Particulate matter less than 10 microns: 15 tpy
- Ozone: 40 tpy of volatile organic compounds
- Lead: 0.6 tpy
- Asbestos: 0.007 tpy
- Beryllium: 0.0004 tpy
- Mercury: 0.1 tpy
- Vinyl chloride: 1 tpy
- Fluorides: 3 tpy
- Sulfuric acid mist: 7 tpy
- Hydrogen sulfide (H₂S): 10 tpy
- Total reduced sulfur (including H₂S): 10 tpy
- Reduced sulfur compounds (including H₂S): 10 tpy
- Municipal waste combustor (MWS) acid gases: 40 tpy
- MWC metals: 15 tpy
- MWS organics: 3.5x10⁻⁶ tpy
- Municipal solid waste landfill (MSWL) emissions: 50 tpy
- Any pollutant not listed above, such as **ODS**: any emissions rate (even a few pounds). Note: a 100 tpy significance level was proposed for ODS 7/23/96 and a 10 tpy significance level for direct PM-2.5 (40 tpy for NOx and SO₂, VOC and ammonia determined by SIP) was proposed 11/1/05.

PSD Applicability and Requirements

8/7/80 Rule

D4

Exemptions in the regulation:

- Routine maintenance, repair, and replacement
- Use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974, (or any superseding legislation), or by reason of a natural gas curtailment plan pursuant to the Federal Power Act
- Use of an alternative fuel by reason of an order or rule under Section 125 of the Act
- Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste
- Use of an alternative fuel or raw material by a stationary source which:
 - The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.18 or 40 CFR 51.24; or
 - The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.24
- An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.18 or 40 CFR 51.24
- Any change in ownership at a stationary source

Exemptions by policy:

- **Pollution control project (PCP) exemption.** EPA policy allowed projects that met the criteria for being a PCP to avoid PSD permitting. The project had to be primarily for PCP purposes and have an overall environmental benefit. This exclusion was needed when the actual to potential test showed an emissions increase when there actually would be a reduction and when there actually would be a collateral increase in a pollutant (e.g., controlling VOC causes NOx emissions increase). Policy was case by case until codified for electric utilities on July 21, 1992, and formalized for all sources by memorandum on July 1, 1994. PCP exclusion was codified for all sources in December 31, 2002, rule, but that provision was vacated by the DC Circuit on June 26, 2005, for both the 1992 and 2002 rules. However, if an agency and source relied on the PCP exclusion prior to the DC Circuit decision, they used an exclusion that was valid at the time.

D25 & D27

Creditable emissions:

- An increase or decrease in actual emissions is creditable only if the Administrator has not relied on it in issuing a permit for the source under this section, which permit is in effect when the increase in actual emissions from the particular change occurs.
- An increase or decrease in actual emissions of sulfur dioxide or particulate matter which occurs before the applicable baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available.
- An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- A decrease in actual emissions is creditable only to the extent that:
 - The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
 - It is federally enforceable at and after the time that actual construction on the particular change begins; and
 - It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

Contemporaneous emissions:

- An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
 - The date five years before construction on the particular change commences; and
 - The date that the increase from the particular change occurs.

Federally enforceable:

- All limitations and conditions which are enforceable by the Administrator, including those requirements developed pursuant to 40 CFR Parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant 40 CFR 51.18 and 40 CFR 51.24.

E3 & E4

The rule does not state that the actual to future actual calculation is used for debottlenecking and increased utilization, but it appears logical to do so for all the units affected by the project, including those debottlenecked or having increased utilization.

D5

This is the 'causal link' test discussed in the 7/21/92 rule. If there is absolutely no logical link between a change and emissions, then the change is not subject to PSD permitting. Example: adding a sidewalk, which could not affect boiler emissions. When an emissions unit itself is changed, the test is not as intuitive. If all the following criteria are met, there likely is no causal link:

Emissions Increase Criteria

- 1.) No increase in any emission factor
- 2.) No increase in capacity (size, input rate, throughput)
- 3.) No increase in utilization due to:
 - a) Increased economic incentive to use the unit more
 - b) Debottlenecking
 - c) Decreased downtime (increased availability)

NOTE: Use this test cautiously when the change is to an emissions unit. The test is easily misapplied and may not be accepted by the permitting agency. Sources should carefully document a very clear rationale for each of the above criteria.

D8

- Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input
- Coal cleaning plants (with thermal dryers)
- Kraft pulp mills
- Portland cement plants
- Primary zinc smelters
- Iron and steel mill plants
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators capable of charging more than 250 tons of refuse per day
- Hydrofluoric, sulfuric, and nitric acid plants
- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- Coke oven batteries
- Sulfur recovery plants
- Carbon black plants (furnace process)
- Primary lead smelters
- Fuel conversion plants
- Sintering plants
- Secondary metal production plants
- Chemical process plants
- Fossil fuel boilers (or combinations thereof) totaling more than 250 MM Btu/hr heat input
- Petroleum storage and transfer units with a total storage capacity exceeding 300 thousand barrels
- Taconite ore processing plants
- Glass fiber processing plants
- Charcoal production plants

D28

Any steam electric generating unit that is constructed for the purpose of supplying more than 1/3rd of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. 40 CFR 52.21(b)(31)

- Sulfuric acid mist: 8/17/71
- CO, NO₂, SO₂, PM (TSP), ozone (VOC), HC: 11/25/71 [36 FR 22384]
- Mercury, asbestos, beryllium: 12/7/71
- Fluorides: 10/22/74
- Vinyl chloride: 12/24/75
- Hydrogen sulfide and TRS: 9/24/76
- Lead: 10/5/78 [43 FR 46258]
- Benzene: 6/6/84 [49 FR 23512]
- Arsenic: 7/20/83
- Radionuclides: 2/6/85
- Radon 222: 9/24/86
- PM -10: 7/1/87
- MWC emissions: 12/20/89
- Municipal Solid Waste (MSW) landfill nonmethane organic compounds (NMOC): 5/30/91 [56 FR 24468]
- Ozone depleting substances (ODS): 7/14/92 [57 FR 31242]
- PM-2.5: 9/16/97 [62 FR 38652]
- Mercury (Hg): 5/18/05 [70 FR 28606] (EPA confirmation requested)
- *****
- Hydrocarbons (HC) dropped 1/5/83 [48 FR 628]. All Hazardous Air Pollutants (HAP) not otherwise regulated were dropped from PSD review 11/15/90:
- ◆ Arsenic ◆ Asbestos
- ◆ Benzene ◆ Beryllium
- ◆ Lead compounds (elemental lead still regulated)
- ◆ Mercury ◆ Vinyl chloride
- ◆ Radionuclides, including Radon 222

PSD Applicability and Requirements

12/31/02 Rule

F7

Exemptions in the regulation:

- Routine maintenance, repair, and replacement
- Use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974, (or any superseding legislation), or by reason of a natural gas curtailment plan pursuant to the Federal Power Act
- Use of an alternative fuel by reason of an order or rule under Section 125 of the Act
- Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste
- Use of an alternative fuel or raw material by a stationary source which:
 - The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.18 or 40 CFR 51.24; or
 - The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.24
- An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.18 or 40 CFR 51.24
- Any change in ownership at a stationary source

Exemptions by policy:

- **Pollution control project (PCP) exemption.** EPA policy allowed projects that met the criteria for being a PCP to avoid PSD permitting. The project had to be primarily for PCP purposes and have an overall environmental benefit. This exclusion was needed when the actual to potential test showed an emissions increase when there actually would be a reduction and when there actually would be a collateral increase in a pollutant (e.g., controlling VOC causes NO_x emissions increase). Policy was case by case until codified for electric utilities on July 21, 1992, and formalized for all sources by memorandum on July 1, 1994. PCP exclusion was codified for all sources in December 31, 2002, rule, but that provision was vacated by the DC Circuit on June 26, 2005, for both the 1992 and 2002 rules. However, if an agency and source relied on the PCP exclusion prior to the DC Circuit decision, they used an exclusion that was valid at the time.

F8

This is the 'causal link' test discussed in the 7/21/92 rule. If there is absolutely no logical link between a change and emissions, then the change is not subject to PSD permitting. Example: adding a sidewalk, which could not affect boiler emissions. When an emissions unit itself is changed, the test is not as intuitive. If all the following criteria are met, there likely is no causal link:

Emissions Increase Criteria

- 1.) No increase in any emission factor
- 2.) No increase in capacity (size, input rate, throughput)
- 3.) No increase in utilization due to:
 - a) Increased economic incentive to use the unit more
 - b) Debottlenecking
 - c) Decreased downtime (increased availability)

NOTE: Use this test cautiously when the change is to an emissions unit. The test is easily misapplied and may not be accepted by the permitting agency. Sources should carefully document a very clear rationale for each of the above criteria.

F15

Clean units must have been designated as such by the permitting agency prior to the modification. The increase is zero as long as the unit remains a clean unit following the project. This provision was vacated by the court 6/25/05, but some clean unit projects may have occurred before the ruling.

F16

Baseline Actual Emissions (BAE) are the average tpy actual emissions over a 24 month period during the previous 5 (for electric utility steam generating units, EUSGU) or 10 years, including fugitive, startup, shutdown, and malfunction emissions. Non-compliant emissions are not included, and all sources except EUSGU must further adjust downward to exclude any emissions that would have exceeded an emission limitation with which the source must currently comply. 40 CFR 52.21(b)(48)

Projected actual emissions (PAE) means the maximum annual rate (tpy) at which an existing emissions unit is projected to emit in any one of the 5 years following the date the unit resumes regular operation after the project (10 years if design capacity or PTE increase due to the project). Fugitive, startup, shutdown, and malfunction emissions are included, but emissions following the project that the unit could have accommodated prior to the project and that are unrelated to the project are excluded. 40 CFR 52.21(b)(41)

F24 & F25

The 12/31/02 rule did not state that the BAE to PAE calculation is used for debottlenecking and increased utilization, but this calculation was confirmed in the 9/14/06 proposed rule on debottlenecking and is logically the correct calculation for increased utilization. Sources electing the actual to potential calculation would use BAE to PTE for debottlenecking and calculate the maximum increase from increased utilization.

F27 & F28

Creditable emissions:

- An increase or decrease in actual emissions is creditable only if the Administrator has not relied on it in issuing a permit for the source under this section, which permit is in effect when the increase in actual emissions from the particular change occurs.
- An increase or decrease in actual emissions of sulfur dioxide or particulate matter which occurs before the applicable baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available.
- An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- A decrease in actual emissions is creditable only to the extent that:
 - The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
 - It is federally enforceable at and after the time that actual construction on the particular change begins; and
 - It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

Contemporaneous emissions:

- An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
 - The date five years before construction on the particular change commences; and
 - The date that the increase from the particular change occurs.

Federally enforceable:

- All limitations and conditions which are enforceable by the Administrator, including those requirements developed pursuant to 40 CFR Parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.18 and 40 CFR 51.24.

F26 & F28

- Carbon monoxide: 100 tpy
- Nitrogen oxides: 40 tpy
- Sulfur dioxide: 40 tpy
- Particulate matter: 25 tpy
- Particulate matter less than 10 microns: 15 tpy
- Ozone: 40 tpy of volatile organic compounds
- Lead: 0.6 tpy
- Fluorides: 3 tpy
- Sulfuric acid mist: 7 tpy
- Hydrogen sulfide (H₂S): 10 tpy
- Total reduced sulfur (including H₂S): 10 tpy
- Reduced sulfur compounds (including H₂S): 10 tpy
- Municipal waste combustor (MWS) acid gases: 40 tpy
- MWC metals: 15 tpy
- MWS organics: 3.5x10⁻⁶ tpy
- Municipal solid waste landfill (MSWL) emissions: 50 tpy
- Any pollutant not listed above, such as ODS: any emissions rate (even a few pounds). Note: a 100 tpy significance level was proposed for ODS 7/23/96 and a 10 tpy significance level for direct PM-2.5 (40 tpy for NO_x and SO₂, VOC and ammonia determined by SIP) was proposed 11/1/05.

F4

- Fossil fuel-fired steam electric plants of more than 250 million Btu per hour heat input
- Coal cleaning plants (with thermal dryers)
- Kraft pulp mills
- Portland cement plants
- Primary zinc smelters
- Iron and steel mill plants
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators capable of charging more than 250 tons of refuse per day
- Hydrofluoric, sulfuric, and nitric acid plants
- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- Coke oven batteries
- Sulfur recovery plants
- Carbon black plants (furnace process)
- Primary lead smelters
- Fuel conversion plants
- Sintering plants
- Secondary metal production plants
- Chemical process plants
- Fossil fuel boilers (or combinations thereof) totaling more than 250 MM Btu/hr heat input
- Petroleum storage and transfer units with a total storage capacity exceeding 300 thousand barrels
- Taconite ore processing plants
- Glass fiber processing plants
- Charcoal production plants

F17

New emissions unit is any emissions unit that is (or will be) newly constructed and that has existed for less than 2 years from the date it first operated. The permit to construct a unit is the initial permitting of a new unit; if that unit is modified within the first 2 years of operation, this is subsequent permitting of the new unit per Box F18/F20.

Existing emissions unit is any unit that is not a new emissions unit.

Replacement unit is a new unit replacing an existing unit or a reconstructed unit that meets the criteria in 40 CFR 52.21(b)(33). Replacements/reconstructions are treated as if they were modifications to existing units.

Exercises for PSD Modification Applicability Diagram

Assume that you have been assigned to review past applicability determinations. The area in which your facility is located has always been in attainment for all pollutants except ozone. It was nonattainment for ozone from January 15, 1979, until July 23, 1986. The original source, a refinery, was constructed in the 1940's. It is major for SO₂, NO_x, CO, and VOC. Since the first PSD rule went into effect in 1975, you ignore all modifications prior to 1975. Determine whether the following projects, which were considered minor modifications at the time, should have received a PSD permit.

1. Project 1 was for a second crude unit. The file includes a 3/10/75 cover letter saying that a minor modification permit is attached. The permit itself cannot be located. There is no indication of when construction commenced.
2. Project 2 was for 10 additional large storage tanks and associated equipment. Again, there is no permit, but there is a contract with the company that built the tanks; the contract was signed 7/4/75. The tank emissions were calculated at 42 tpy. There was no information on the reason for the tanks or whether the tanks would debottleneck or increase utilization of the refinery.
3. Project 3's permit is dated 4/20/76; there is no indication of the date construction commenced. It is a modification to the FCCU that increases capacity. The PM emission rate in lb/1000 lb coke remains the same, but an increase of 1 lb/hour (4.38 tpy) is estimated.
4. Project 4 is for a boiler that will burn fuel gas, natural gas, or No. 6 oil. The permit was issued 2/15/78; it appears from the few remaining documents that construction began in May 1979. The boiler was subject to an NSPS that limited emissions to approximately 40 tpy SO₂; uncontrolled emissions were estimated at 870 tpy SO₂.
5. Project 5 is intended to reduce VOC emissions by flaring a waste gas stream. The result is a decrease in VOC emissions of 400 tpy, but an increase in NO_x of 90 tpy and an increase in SO₂ emissions of 1200 tpy. The project was approved by the agency in December 1979.
6. Project 6 was issued a permit 6/6/80 and began construction immediately. This was for a package boiler burning natural gas only. Estimated uncontrolled emissions were 60 tpy; controlled emissions were estimated at 25 tpy NO_x.