

**INTER-OFFICE COMMUNICATION**

TO: Stationary Sources Permitting and Compliance Staff and Local Agencies

FROM: Jim Geier/Dave Ouimette

DATE: December 18, 1998 (second revision) (May 12, 1998 first revision)  
(originally issued May 1, 1997)

RE: **PS Memo 97-3 Construction Permit Conditions**

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This memo was revised on May 12, 1998 to address the elimination of short term limits for some permits. The second revision was made on December 18, 1998 to address modeling concerns associated with eliminating short term limits.

The Division has been meeting with stakeholders to discuss our policy regarding permit conditions. As a result of these meetings, the Division is incorporating changes into the way we write permits. This procedural memo is being revised to reflect the policy changes described in PS memo 98-03. The biggest changes involve the averaging times for emissions, throughput limits and the segregation of 'state only enforceable' conditions. In most cases short term limits will change from hourly to monthly, rolling 12-month, or annual limits. Any specific performance standards in state or federal rules will be written as specified in the standard.

These changes are being made to address concerns regarding compliance certifications for sources which don't have continuous monitors and therefore are not sure if compliance was met each and every hour. The changes will also reduce the record keeping requirements for sources since hourly records will no longer be required in many cases and also will provide the source with increased operational flexibility. The Division does not believe that these changes will affect the enforceability of permits, but will result in permits which will be easier for sources to understand and for inspectors to determine compliance.

This memo will establish procedures for determining which permit conditions need to be included on new construction permits issued by the Division. When a construction permit **modification** request is received the modified permit should be revised according to this policy. For **transfer of owner** and other administrative change (such as typographic errors) requests which do not also involve a modification, no substantive additions should be made to the permit conditions, although informational notes may be added, and existing permit conditions should be modified to reflect current wording. Any questions regarding past permit conditions which may be affected by this memo should be directed to the construction permit (CP) unit leader. Changes to the averaging time for emission limits on final approval permits, which have already been issued, will only be made when requested by a source.

**GOALS OF THE PERMITTING PROGRAM**

Prior to discussing the types of permit conditions which should be placed on permits it is appropriate to identify the goals of the permit program. Six basic goals can be

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identified as follows:

- ▶ Ensure that new and modified sources do not hinder progress in cleaning up non attainment areas;
- ▶ Ensure that new and modified sources do not cause significant deterioration of air quality in areas where the air is cleaner than national standards;
- ▶ Ensure that new sources do not pose an unacceptable health risk from emissions of hazardous air pollutants;
- ▶ Ensure that new sources don't cause a nuisance due to dust or odorous emissions;
- ▶ Ensure that major sources continuously comply with their permit requirements; through issuance of operating permits; and,
- ▶ Ensure that sources can meet state and federal performance standards.

Currently we try to meet the permitting goals by implementing federal requirements and then use state requirements to fill gaps not covered by EPA. The heart of the federal program is the concept of a major source. Major sources are required to meet certain emission control technology standards and conduct impact analyses as noted below.

- ▶ For non-attainment areas, major sources are required to meet the lowest achievable emission rate (LAER) and offset their emissions on at least a 1:1 basis.
- ▶ For attainment areas, major sources must utilize best available control technology and demonstrate that their emissions will not violate a NAAQS, violate an increment, or cause an adverse impact to a Class 1 area (national parks and wilderness areas).
- ▶ For major sources of hazardous pollutants, sources must install maximum achievable control technology, and in the future, must show that the remaining emissions do not cause an unacceptable risk.

The EPA regulations require the state to develop a permitting program to implement the federal requirements and to include other measures which may be necessary to ensure that ambient air quality standard violations do not occur. To meet this requirement Colorado has developed its construction permit program to cover major and minor sources with certain exemptions applicable to sources with negligible impacts on air quality. In association with the construction permit program the Air Quality Control Commission has also promulgated several emission standards to address sources not covered by federal standards such as: fugitive dust control requirements, an odor standard, various SO<sub>2</sub> standards, and standards for incinerators.

Colorado also allows sources to obtain **synthetic minor** permits in situations where their potential emissions exceed major source applicability levels but actual emissions are less than those levels.

## LEGAL REQUIREMENTS

The Colorado **statute** (§114.5(7)) includes the following requirements for granting a permit.

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1. The source will meet all applicable emission control regulations and regulations for the control of hazardous air pollutants.
  2. The source or activity will meet the requirements of part 2 (PSD program for major sources) or 3 (attainment program: clean up non attainment areas) of the ACT.
  3. For construction permits, the source will meet any applicable ambient air quality standards and all applicable regulations.
  4. For operating permits, the source will meet all applicable requirements and the EPA does not object to the permit.

The requirements for granting **construction** permits are also stated in Regulation 3, Part B. Section IV.D.1., with minor wording changes from the statute. This section also adds requirements to:

- ▶ pay the Division processing fees prior to permit issuance;
- ▶ submit an acceptable operating/maintenance plan (for control equipment and practices) and recordkeeping format (for demonstrating compliance on an ongoing basis); and
- ▶ notes that the permit does not relieve the source from complying with any other SIP requirements. (Typically there are no other requirements than the regulations, but if something is omitted this will cover it).

These requirements are not enforceable by themselves but are the basis for permit conditions and are required for the permit to be complete.

One other requirement for construction permits is found in Part B. § III.A.4. which states:

- ▶ Construction permits for criteria pollutants and hazardous air pollutants shall be issued based on the production/process rate requested in the APEN submitted with the permit application or as requested in the application. The emission rate associated with the requested production/process rate shall be a permit condition....

This requirement was developed to give the Division authority to issue synthetic minor permits by allowing sources to be limited to requested production or raw material process rates, or be limited by an enforceable emission rate.

With the statute and regulations as a guide, the Division has created policies over time to provide consistency in the way permits are drafted. This memo will revise the procedures and conditions which should be incorporated into the **construction** permitting process.

## **SOURCE CATEGORIES**

This memo will establish three categories into which permits will be classified.

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- ▶ True Minor Sources
  - ▶ Synthetic Minor Sources
  - ▶ Major Sources

The appropriate category will be determined based on an evaluation of the worst case emissions from the source compared to the emission limit contained on the permit. The worst case calculation is also referred to as the **potential to emit** (PTE) of the source. The USEPA used the term potential to emit in the first version of the PSD regulations issued in 1974. The meaning of PTE has been litigated extensively resulting in the current definition in the Colorado and Federal regulations. This definition found in Regulation 3, Part A. definition # 45 states that:

- ◆ Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitations on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type of raw material combusted, stored, or processed, shall be treated as part of the design if the limitation or effect it has on emissions is enforceable and federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source. (Note: Secondary emissions are those associated with a source but not directly emitted by the source. See NSR workbook for examples.)

Under EPA's permitting regulations PTE represents the worst case emission rate of the source operating continuously throughout the year, considering any federally enforceable standards. If EPA were operating the permitting program the only standards they would consider in calculating PTE would be federal standards such as NSPS (contained in Regulation 6, Part A) and MACTs (contained in Regulation 8), and any state created standards which have been adopted into the State Implementation Plan (SIP). By being in the SIP the standard becomes federally enforceable. Standards contained in Colorado Regulations 1 and 7 are in the SIP. The definition of PTE also allows for physical and operational limitations contained in State issued construction permits to limit PTE. The result of the definition's consideration of state imposed limitations is somewhat confusing because under EPA's use of the term state permit conditions do not limit a source, but if a state permit is issued the limitations in that permit are considered federally enforceable. In this memo the phrase 'worst case' will be used to refer to the calculation EPA would conduct to determine if a source is major, while PTE is used to refer to the emission limit which results from the division's calculation which considers physical and operational limitations.

The three categories of sources are defined below.

- ▶ **True minor sources** - Sources whose worst case emission rate is below all major source levels.
- ▶ **Synthetic minor sources** - When a source with worst case emissions which would classify it as major accepts a permit that includes conditions which keep it minor, it is called a **synthetic minor**. Sources that request synthetic minor

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permits must realize that they must comply with the permitted emission and/or operational limits and that they cannot construct and then apply to revise the permit to major source levels through incremental increases. This is referred to as a 'sham' permit. Sources must make their true intentions known at the time of application. Sources who request synthetic minor permits will be subject to appropriate monitoring and recordkeeping requirements in order to demonstrate compliance with their permit on an ongoing basis.

- ▶ **Major sources** - Sources whose requested emission rates are above major source levels. Major source levels for criteria pollutants are 100 TPY for listed source categories ( see definition No. 59 in Regulation 3, Part A) or sources of a non-attainment pollutant located in a non-attainment area and 250 TPY for all other source categories. One complication that occurs is that a source may be a true minor or synthetic minor for attainment area construction permit purposes (at less than 250 TPY) but a major for OP purposes (at 100 TPY). Operating permit major source levels for HAPs are 10 TPY of any single HAP or 25 TPY total emissions for all HAPs. (Note: There are also some HAP sources which are required to obtain operating permits at levels less than 10/25 TPY.)

**These categories also apply to modifications.** Consequently, if a source is an existing major source, changes must be evaluated to determine the modification status. This means that a change could result in a true minor modification, synthetic minor modification, or a major modification. Major modification issues will not be discussed in this memo but are covered in the EPA NSR Workbook.

#### **DETERMINING SOURCE CATEGORY TYPE** - True minor, Synthetic Minor, Major

The first step in determining the source category involves calculating the worst case emissions of a source on an annual basis. In conducting the analysis, worst case emission rates should be calculated based on AP42 emission factors or other established emission information. Worst case rates should be calculated based on 24 hour per day, 7 days per week operation at maximum design rate. Worst case calculations should include reasonable assumptions, which one could defend in a hearing before the Air Quality Control Commission. (For example it would be difficult to defend a determination that a service station could continuously serve cars one after another at every pump at a station 24 hours per day). **If the source is subject to a specific standard which is federally enforceable such as NSPS, MACT, or a standard contained in a regulation which is part of the SIP, that standard is to be considered in the worst case calculation.** Once it is clear that the source has the potential to be major this calculation may be halted and additional emission units do not have to be evaluated. The EPA New Source Review (NSR) Workshop Manual also contains information on these calculations in Appendix C. Worst case calculations will not be required on the following sources and they will be assumed to be true minors:

- ▶ Gasoline service stations
- ▶ Automotive repair paint booths
- ▶ Lithographic, Flexographic, Screen printing shops with actual VOC emissions less than 20 tons per year.

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Other source categories can be added to this list as approved by SSP management.

Questions on worst case calculations should be referred to the construction permit unit leader.

Once the worst case emissions have been calculated the next step is to determine the potential to emit of the source by considering any operational restrictions the source is willing to accept. The Division considers all conditions placed on a construction permit regarding operational restrictions and emission limits to be legally and federally enforceable, consequently conditions on permits can reduce the PTE to less than worst case conditions so long as the conditions are drafted in a way to ensure that they are practically enforceable. Conditions which are practically enforceable are those which can be easily evaluated by an inspector and include: limitations on quantities of raw materials consumed, fuel combusted, hours of operation, and production quantities.

**Fugitive emissions** are only included in determining the source category in certain circumstances. Fugitive emissions are emissions which cannot reasonably pass through a stack (see definition # 25 in Regulation 3, Part A) and typically result from activities such as haul roads, wind erosion of exposed areas and VOC leaks from piping. Fugitive emissions are only counted in the emission calculation if the source category is one of the 28 listed in the definition of major stationary source (Definition No. 59 in Regulation 3, Part A) or if the source is subject to a NSPS or NESHAP that was promulgated by EPA prior to August 7, 1980. The EPA's NSR Workshop Manual contains a listing of the NSPS and NESHAPs promulgated before August 7, 1980 on pages A.12-15. Fugitive emissions are also counted for all sources of hazardous air pollutants (HAP) to determine if the source exceeds the HAP major source levels of 10 or 25 tons/year which trigger the need for an operating permit.

While construction permits are required for HAPs if a new or modified source is subject to a NESHAP or MACT standard, the preliminary analysis should also include a calculation of the potential to emit (PTE) to determine whether the source exceeds the 10 or 25 TPY level for a major HAP source. If the PTE exceeds these levels the source needs to be informed of the need to either submit an operating permit application within 12 months of commencement of operation or to obtain a synthetic minor permit during the current construction permit review process.

Once the PTE has been calculated the source, or new emissions unit for modifications, will fall into one of the three categories. As mentioned earlier, this review also needs to occur for **modifications** at existing sources since a modification could also trigger major source permitting requirements. The definition of 'significant' in Regulation 3, Part A lists the major modification levels for each pollutant.

By being a synthetic minor a source may escape more stringent requirements associated with being major, such as: use of best available control technology (BACT), having to meet the lowest achievable emission rate (LAER), the need to obtain an

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operating permit or being subject to a MACT standard. **Because the issuance of synthetic minor permits can allow a source to avoid having to install control equipment, special attention should be given to ensure that they can comply with their construction permit conditions. For this reason a clear determination of the status of a source needs to be done in each preliminary analysis. All synthetic minor permits must be noticed for public comment prior to issuance.**

## **METHODS OF LIMITING PTE**

The methods for limiting the PTE of a source include operational restrictions and emission limits. Operational restrictions include the following:

- ▶ limits on the hours of operation of the source;
- ▶ limits on the production amount of final products;
- ▶ limits on the quantities of raw materials used in the process;
- ▶ requirements for the installation and operation of emission control devices.

Emission limits are also needed to restrict the PTE of a source. Typically emission limits will be used in conjunction with operational restrictions when limiting a source's emissions. In some cases emission limits alone can limit the PTE, however this is only allowed in certain cases, such as when a continuous emission monitor is installed or when a mass balance can be used to accurately determine emissions.

Efforts should be taken to limit PTE in the simplest manner possible. This may be through an hours of operation limit if worst case hourly emissions times the hours of operation are below major source levels.

## **EPA PERMITTING POLICY**

There is limited national guidance from the EPA on what conditions should be included on permits. Most EPA guidance addresses conditions which are needed to limit potential to emit to avoid major source levels. EPA is mainly concerned that permit conditions be enforceable from a legal and practical standpoint. This means that the state must have the legal authority to impose the condition and that there must be a practical way for the agency to determine that the condition is met. EPA requires that sources which avoid a regulatory requirement must be able to demonstrate that permit conditions are complied with. Typically the regulatory requirement that new sources hope to avoid is being classified as a major stationary source which would subject them to PSD or non attainment NSR (NA-NSR) permitting. Existing sources typically want to avoid being classified as major sources of HAPs; major sources subject to operating permits; or have new emission units be subject to major modification provisions. In order to ensure that sources which avoid these types of requirements are subject to appropriate conditions EPA has issued a guidance memo dated June 13, 1989 titled 'Guidance on Limiting Potential to Emit'. This memo notes various types of permit conditions which EPA believes are adequate to limit PTE from a practical standpoint. EPA's chief concern with issuing synthetic minor permits is that averaging times be of a short duration, and be practically enforceable, such that an agency would not have to wait for a whole year to determine if a source complies with the permit condition. In this

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regard EPA suggests that operational limits should be no longer than a one month period or alternatively a 12 month rolling period when operation varies during the year. EPA believes that most synthetic minor permits should include both operational and emission limits to be practically enforceable. In some cases continuous monitors should be required if there are not other methods which can be used to determine compliance, such as a mass balance. Sources which do not comply with their synthetic minor permit conditions will be required to address the major source requirements and are subject to enforcement action.

## **PERMIT CONDITIONS**

The Division's policy regarding permit conditions is aimed at being able to accurately categorize sources and to ensure that permits are clearly written such that sources understand how to comply with the conditions and inspectors and the public can easily determine if compliance is being achieved. We need to ensure that sources subject to specific requirements meet those requirements and sources avoiding more stringent requirements comply with the restrictions in their permit. The Division believes that these goals can be met through limitations that allow sources more flexibility than occurred in the past. In the past, all sources were required to have hourly short term emission and production/throughput limits as permit conditions. This memo will revise that requirement and allow for either monthly, annual, or rolling 12 month emission and production/throughput limits. These changes will not affect the enforceability of permits but should allow sources to more easily determine their compliance status. The changes will generally only apply to the limits imposed on a case by case basis by the division. Specific performance standards contained in Regulations 1, 6, 7, and 8 will continue to apply with the same averaging time as contained in the standard. For some performance standards an averaging time may not be stated, and it is the test method which actually establishes the averaging time. This is the situation for many NSPS particulate standards where EPA test method 5 is specified. Method 5 gives results based on the average of 3 one hour test runs. A similar situation exists for opacity which is based on readings being taken every 15 seconds over a six minute period.

The Division will use the following criteria in developing permit conditions.

## **EMISSION STANDARDS**

- ▶ Any emission standard contained in the regulations will be included as stated in the standard itself. This includes Reg 1,6,7, and 8. The averaging time and test method for these standards should be stated in the permit. The permit condition must state the emission limit and a copy of the complete standard should be attached to the permit, or the Code of Federal Regulations (CFR) citation for the federal standard should be noted in the permit.
- ▶ Compliance with Regulation 7 VOC emission limits for surface coating (applicable in the Denver non attainment area) must be demonstrated on a daily

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basis. Material usage records must be kept on a daily basis, however compliance calculations can be done at the end of the month, not each day. If compliant coatings (VOC content is less than the lb/gallon standard) are used, only monthly or annual (depending on source type) emissions would need to be calculated, since it is already known that compliance has occurred each day. If compliant coatings are not used the source must demonstrate that compliance was achieved each day by averaging non-compliant coatings with compliant coatings at the end of each month. This is referred to as a daily weighted average. Sources which are exempted from the surface coating requirements because they are below the 3 pound per hour and 15 pound per day cutoffs (§ IX.A.6.b.) will be required to calculate daily emissions at the end of the month to show that they are below 15 pounds per day. If they are below 15 pounds a day it will be assumed that they are also below 3 pounds per hour. In this case daily emissions will be calculated by dividing monthly emissions by the number of operating days.

### TRUE MINOR SOURCES

- ▶ For all true minor sources, the state imposed emission limit for pollutants emitted above APEN de minimis levels (on an actual uncontrolled basis) will be an annual limit only, unless a short term limit is needed to demonstrate compliance with a NAAQS. Annual production limits will also be included with an annual recordkeeping requirement. A less stringent averaging time is allowed in this situation since the source is not trying to avoid any applicable requirement.
- ▶ Since fugitive emissions are only considered for 'listed' sources, most mining operations are true minor sources. Due to the nature of mining activities there typically is no design rate which can be considered as limiting to the operation, additionally many mining operations have the potential of exceeding the PM<sub>10</sub> ambient air quality standard, if production is not limited. Consequently, production rates for mining operations will be limited on a **daily** and annual basis. Emission limits for these sources will still be on an annual basis. **Conveyor belts and associated transfer points** are typically located at mining operations. Since mining operations will typically be limited to a daily and annual production limit, the potential to emit for conveyors and transfer points will be based on the production limits contained in the permit.

### SYNTHETIC MINOR SOURCES

- ▶ Synthetic minor sources, for any pollutant, will have monthly and rolling 12 month emission limits for all pollutants emitted above APEN de minimis levels (on an actual uncontrolled basis). Production limits for synthetic minors should also be stated as monthly and a rolling 12 month total. After the first year of operation the monthly limits will no longer be in effect and only the rolling 12 month limits will remain. The monthly limits are needed the first year so that potential violations can be quickly identified. After the first year the rolling 12 month total is adequate for showing that the source is below major source thresholds. All emission units at synthetic minor sources will have monthly and annual limits as

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noted above even if any one emission unit by itself is a true minor. In some situations, such as seasonal sources, monthly limits may not be appropriate. In this regard other time periods, such as a quarterly limit, may be used on a case by case basis providing the limit is practically enforceable.

- ▶ Allowable hours of operation per month will be a permit condition, unless the source operates 24 hours per day, seven days per week. This provides a simple way of limiting PTE while only requiring a log of daily operating hours. Sources will need to state what the allowable hours of operation per month and year are for their operation if it is less than 744 hours per month and 8760 hours per year. The APEN operating hours should be confirmed with the source contact because sources may not realize that those operating hours may be reflected in a permit condition.
- ▶ The need for continuous emission monitors should be evaluated in all synthetic minor permits and required when there is a concern about a source meeting its synthetic minor limit. If CEMs are deemed unnecessary, periodic stack testing should be considered, with frequency of testing determined on a case by case basis.
- ▶ If a stack test is required of a source the test protocol will result in a pound per hour emission rate which will be multiplied by the allowable operating hours in the month or year to show compliance. If a source is not limited in its monthly hours of operation the test results will be multiplied by the maximum number of hours in a month (744) or year (8760).
- ▶ If the source is a synthetic minor and has emission control equipment, the permit will require proper operation of the control equipment. The operation and maintenance plan required with the application will be included as a permit condition.

## MAJOR SOURCES

- ▶ Major sources will have rolling 12 month throughput/production and emission limits for all pollutants emitted above APEN de minimis levels (on an actual uncontrolled basis). In addition to the annual limit all pollutants subject to BACT/LAER must have an appropriate short term emission limit such as pound per hour, pounds per million Btu or parts per million. These short term emission limits are required for sources subject to BACT since BACT is to reflect the maximum degree of emission reduction. (If BACT limits were written with annual averaging times a source could avoid having to achieve the maximum degree of emission reduction in cases where the source did not operate the maximum hours permitted each year.) This also applies to LAER, since the lowest achievable emission rate is to be met at all times. All emission units at major sources will have rolling 12 month limits, as noted above, even if any one emission unit by itself is a true minor.
- ▶ Continuous emission monitors or periodic stack testing should be considered for

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PSD/NA-NSR sources utilizing control equipment to meet BACT/LAER. This issue should be discussed with the unit leader.

- ▶ A condition stating operation and maintenance requirements of control equipment or practices should also be included. (e.g.; specify temperature rise across a catalytic oxidizer, or air fuel ratio setting for an engine relying on an given air/fuel ratio to meet an emission limit.)
- ▶ Emission limits will be included for any pollutant which must be limited to avoid an increment violation or AQRV adverse impact. The emission limit in this case should be in pounds per hour averaged over the same time period as the ambient averaging time which is being protected. (E.G.; 8 lbs/hour averaged over 24 hours, for the 24 hour PM<sub>10</sub> standard)

## DETERMINING EMISSION LIMITS

All construction permits will contain emission limits which will be based upon the source's requested production/raw material thruput rate or operating procedures. These emission limits will typically be a monthly, annual, or rolling 12 month limit. The monthly or annual limit will be developed by determining the hourly or daily emission rate and multiplying by the maximum number of hours or days the source may operate in a month or year.

Development of an emission limit will be based on the definition of **allowable emissions** contained in the statute (25-7-103(4)) and Regulation 3 (Part A, definition 8). This definition states:

- ▶ Allowable emissions means the emissions rate calculated using the maximum rated capacity of the source (unless the source is subject to enforceable permit conditions which limit the operating rate or hours of operation) and the most stringent of the following:
  - a. The applicable standards in 40 CFR 60 & 61....
  - b. The applicable Colorado emission control regulation; or
  - c. The emission rate specified as an enforceable permit condition.

Using this definition the following procedure should be followed to develop the emission limit.

1. Calculate the emission rate for the source using the best emission information available (generally, AP42). This calculation should occur for the requested hourly or daily and annual raw material process/production rate contained on the APEN or the application. The requested rate must be the same as the hourly design rate noted on the APEN for equipment of a fixed design, such as an asphalt batch plant. The design rate needs to be modeled because with the elimination of hourly limits there are no constraints on when emissions will occur, for example a source could theoretically emit a months worth of emissions in a day without limitations. It is appropriate to assume, however, that equipment will not typically operate beyond its design rate. For sources without a fixed design

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rate, such as mining operations, permit conditions will limit operations to the requested rate which will typically be a ton per day production rate. Sources should be informed of the opportunity to provide some room for growth in their requested process/production rates. If a source requests a given emission rate make sure that the emissions which were calculated are equal to or below the requested emission rate. If a source does not request an emission rate the division calculated rate will be assumed to represent their requested rate. If daily emissions are calculated, divide by the number of operating hours per day to get an hourly rate for modeling purposes.

2. Determine which federal standards apply to the source. These standards are contained in 40 CFR Parts 60 & 61 (NSPS and NESHAPs respectively), and are adopted by reference in Colorado Regulations 6 (Part A) and 8 (Part A). This review also needs to consider Part 63 which covers MACT standards, and which are also adopted by reference in Regulation 8 (Part E). Part 63 is a relatively new section not in existence when the definition of allowable emissions was written. Case by case emission limits for major sources and major modifications subject to Best Available Control Technology (BACT) or Lowest Achievable Emission Rate will be determined as described in the EPA New Source Review Workbook. Note in the preliminary analysis if you expect the source to meet the standard, and how the requested emissions compare to the standard. If the requested emissions exceed the standard, determine the hourly emission rate which would meet the standard, since the allowable emissions cannot exceed the standard.
3. Determine what state emission control standards apply to the source. These would include Regulation 1 standards for fugitive PM emission control; Regulation 6, Part B standards for new sources including the Process Weight Rate equation and the Fuel Burning equation for PM, and the SO<sub>2</sub> standards for various source categories; Regulation 7 VOC standards; and case by case RACT determinations for minor sources in non attainment areas. Note in the preliminary analysis if you expect the source to meet the standard, and how the requested emissions compare to the standard. If the requested emissions exceed the standard, calculate the hourly emission rate which would meet the standard.
4. Conduct any necessary air quality modeling, as required by the Division's modeling guidance, (modeling of VOCs are not required) using the emission rate associated with the design rate or allowable production rate calculated in step 1 above, unless the emission rate exceeds a performance standard, in which case the hourly rate calculated in step 3 should be used. If the impact exceeds any ambient standard or other modeling guideline then contact the applicant to see if they would like to conduct more refined modeling. If final modeling still indicates a violation of an air quality standard then the emissions should be proportioned downward until the ambient standard is met. The resulting hourly rate should then be included as a emission limitation with the same averaging time as the ambient standard in question. (Eg: for a source with modeled violations of the 24 hour PM<sub>10</sub> standard, the permit condition would state the pounds per hour

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(on a 24 hour average basis). If there are no modeled impact problems then the hourly emissions will either be the requested emissions or the hourly rate calculated in paragraph 2 or 3 above which corresponds to the standard. (The Division's modeling guidance can be viewed on the Division web site at: <http://serval.state.co.us/permits/cmng.html>). An exception to this procedure will be allowed for fugitive sources at mining operations since there is no practical way to actually measure emission rates. As a result, mining operations should include daily and annual production limits, along with annual emission limits.

5. Use the requested hourly or daily emission rate developed from the above procedures, or the emission rate required to meet an emission or ambient standard to create a monthly (for synthetic minors) emission limit, by multiplying by the maximum number of operating hours per month or the maximum number of operating days per month, as requested by the source. The annual or rolling 12 month annual limit should be calculated using the annual raw material throughput/production rate stated on the APEN.
6. In a separate permit condition also include the emission standard resulting from any federal or state emission control regulation in the terms used in that regulation (e.g. grains per dry standard cubic foot).
7. Some sources may request that their emission limits contain a 'buffer' to provide them greater assurance that they are meeting an emission level. Buffers will be allowed, with fees based on actual emissions as Colorado law requires, however, all modeling and source category determinations will be conducted at the buffered emission rate. The emission factor listed on the permit will also be based on the buffered emission rate.
8. Source tests will be required on a case by case basis, as approved by the Construction Permit Unit Leader, to show compliance with a federal NSPS or MACT standard or a synthetic minor limitation. Permit conditions addressing testing may require that compliance be demonstrated for both the emission limit derived through the steps noted above and any specific standard. If the test shows that the emission limit is exceeded but that the specific standard is not, the source will be allowed to revise the final approval emission limits (and emission factor) to reflect the actual test results, providing no ambient modeling impact problems are identified at the higher rate. Language is contained in the standard permit conditions to address this point. Raising the emission limit following a test will result in a higher emission factor and higher annual emission fees. If the higher emission limit would cause the source to become major, the CP unit leader should be notified. In this case the final permit would not be issued until all major source requirements are met, or the source agrees to new conditions to ensure compliance with synthetic minor permit conditions. **Stack tests will typically be conducted according to EPA testing procedures and the test results will be multiplied by the allowable hours of operation to show compliance with the monthly or annual limits.** Tests for a specific standard will still be conducted as required by the standard with results compared to the averaging time contained in the specific standard.

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## STATE ONLY CONDITIONS

State only conditions are those which are not included in the SIP and are only enforceable by the state. By being state only they are not enforceable by the EPA or citizens. State only conditions must be clearly identified in the permit. State only conditions will be noted in the standard conditions and currently include the Regulation 2 odor standard; Regulation 15 CFC requirements; and the requirement to mark the permit number on the permitted equipment.

## CONDITIONS TO BE INCLUDED ON CONSTRUCTION PERMITS

The conditions which should be included on each of the three types of permits follows below. It should be noted that if a source is major or synthetic minor, that all new emission units will have limitations based on rolling 12 month totals, even if the new emission unit is a true minor by itself (if the new unit is a synthetic minor it will also have monthly limits for the first year). Attached to this memo are the standard conditions which will be used on all permits. **These conditions may be revised by the permit reviewer to address specific concerns associated with a given source. Not all conditions need to be on a given permit and changes can be made as justified in the preliminary analysis and approved by the construction permit unit leader.**

## TRUE MINORS

1. Include the annual emission limit associated with the annual production rates. **Emission limits should be included for all criteria pollutants emitted above APEN reporting levels** (on an actual uncontrolled basis) **for that emission unit.** Annual emission limits will be on a calendar year basis. **Emission limits for hazardous pollutants are only needed if a true minor is subject to a MACT or NESHAP standard.** HAP emission rates above APEN de minimis levels for sources not subject to MACT will be listed in a note at the end of the permit. (True minor emission units located at synthetic minor or major sources will have limits written following the guidance for synthetic minor or major sources.)
2. Requirement to provide the make, model and serial number of equipment.
3. Requirement to mark the permit number on equipment. (State only)
4. Reg 2 Odor applicability (as necessary if odors are possible). (State only)
5. Limit the production or raw material process rate, including fuel use to the requested rate on an annual basis.
6. APEN requirements - The requirement to file a revised APEN prior to expiration or for a significant increase should be included. The significant increase level should be noted for the single highest emitted pollutant in production or raw

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material process units if possible. ( e.g.; one TPY change occurs when gizmo production increases by 4,000 units.) Emission factors for other pollutants will be listed at the end of the permit.

7. Opacity limits of 20%, except for startup and shutdown as noted in Regulation 1, or as otherwise required by a specific NSPS. Condition will also note that opacity will be determined by EPA method 9, unless a continuous opacity monitor is required to be installed.
8. **Fugitive emissions** will be handled as follows: Fugitive PM emission control practices must be included in the permit per the control plan required by Regulation 1 along with the appropriate emission limit. Any fugitive VOC requirements from Reg. 7 (e.g.; leak testing and repair) should be permit conditions. The definition of fugitive emissions states that fugitives are 'emissions which could not reasonably pass through a stack', which include sources such as unpaved roads, storage piles, and leaks from piping. The Division considers crushers, screens, conveyors, and transfer points to be point sources since they can be enclosed and controlled. Questions on whether an emission point is fugitive should be directed to the CP unit leader.
9. For VOC sources in the Denver Ozone non-attainment area any specific emission requirement contained in Regulation 7 must be included as a permit condition. For surface coating operations, the general housekeeping requirements in § IX.A.7 must also be included. Compliance with specific surface coating standards is to occur on a daily basis. Sources which use compliant coatings to continuously meet the Reg 7 requirements must keep records from the coating manufacturer showing that the VOC content is in compliance. Sources which do not use compliant coatings must show that the coatings they do use meet the pound per gallon limits on a daily weighted average basis. For these sources, calculations showing daily compliance do not have to occur each day but can be done at the end of each month, providing daily records are kept of material usage.

For VOC minor sources, which use a mass balance to determine emissions and which do not have specific Reg 7 standards to meet, monthly record keeping will be required, with daily emissions to be determined by dividing monthly emissions by days of operation (if needed to demonstrate that they are below the 15 pound per day surface coating exemption level). The requirement to utilize high volume low pressure spray guns should also be included for surface coating sources as a general RACT requirement. If a source's specific circumstances make use of an HVLP paint gun impractical it may be left off the permit if justified in the preliminary analysis.

10. **Recordkeeping plans** required by §IV.B.2.(ii). of Reg 3. Part B should be required with the application for major and synthetic minor sources, but **will be waived for true minor sources**, unless justification is provided in the preliminary analysis as to why it is needed before permit issuance (e.g.; source has poor compliance history or true minor status is questionable. The standard

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permit condition limiting production or raw material/fuel will require that the true minor source keep records of the actual rates for compliance purposes.

11. An operation and/or maintenance plan for **control devices and control practices will be waived for true minor sources**, unless justification is provided in the preliminary analysis as to why it is needed before permit issuance. This plan will be required for synthetic minor sources and other sources whose emission rate is dependent upon proper operation of the control equipment. The condition should be based on the operation and maintenance plan for control equipment and control practices required by §IV.B.2.(i). of Reg 3. Part B. In most cases the source will probably state that its plan is to follow the manufacturer's recommendations in which case the permit condition should state this and require that a copy of the plan be maintained on site for inspector review. The preliminary analysis should confirm qualitatively that the design of the device is appropriate, detailed engineering calculations to prove that the control device is properly designed should only occur in specific circumstances as approved by the CP unit leader. The emission limit imposed on the source should be based on the effectiveness of the device. In most cases a control efficiency requirement should not be included as a condition due to difficulty in determining it and the fact that the device may not achieve optimum efficiency except at design capacity. If the control efficiency is questionable the required efficiency can be included as a permit condition on the initial permit. Following a final approval stack test the efficiency requirement would be removed and replaced with specific operating parameters as deemed necessary, unless the source prefers to show compliance by testing to demonstrate the efficiency.
12. Expiration of the permit in 18 months if construction is not commenced or is discontinued as required by Reg 3. Part B § IV.G.4.
13. Requirement to submit a Relocation Notice for portable sources 10 days before moving to the new site.
14. Upset reporting procedures should be noted at the end of the permit for the applicant's information, however there is no requirement that a source must call in an upset; it is optional, and should occur if the source wants to have a defense to an enforcement action for the violation that occurs due to the upset.
15. Emission testing requirements, as needed.
16. Specific emission limits as noted in the standard for emission units subject to New Source Performance Standards (Parts A and B), NESHAP/MACT, Regulation 1, and Regulation 7. Also attach a copy of the specific section and the general provisions for the NSPS and MACT standards or include the CFR citation. Also include the short term emission rate that may be developed through a case by case RACT determination.
17. The condition from the NSPS general provisions which requires proper operation of the source to minimize emissions at all times. This condition should be put on

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all permits which are subject to Regulation 6, Part B standards for PM or SO<sub>2</sub> resulting from the process weight and fuel burning standards and for incinerators.

18. A note stating which emission factors were used for calculating emissions (note whether factors are controlled or uncontrolled). Also a notation as to what the source status is (true minor, minor modification, synthetic minor, synthetic minor modification, major, major modification).
19. A requirement to file a notice of startup 30 days prior to commencement of operation of the source. This condition is also stated on the back of the permit, but should also be noted as front page condition, since this notice starts the 180 day clock for the source to demonstrate compliance with the permit.
20. A requirement for the source to demonstrate compliance with the permit conditions within 180 days after the commencement of operation. If this does not occur the permit may be revoked.
21. Short term emission limits that are needed to insure that a NAAQS will not be violated. The averaging time for this limit must be the same as for the NAAQS of concern.

## SYNTHETIC MINORS

Special attention should be given to sources which are determined to be synthetic minors, since these are the sources who are avoiding more stringent requirements by agreeing to limit their emissions. Most of the permit conditions listed for true minors should be included along with the following.

1. Production or raw material throughput limits on a monthly and rolling 12 month basis with associated recordkeeping requirements. Monthly limits will only apply for the first year of operation.
2. A limitation on the number of operating hours per month and year for sources operating less than 24 hours per day 7 days per week, with a requirement to keep a log of the daily hours of operation to be totaled each month.
3. A monthly and rolling 12 month annual emission limit that keeps the source below the major source level, for both **criteria pollutants and HAPs**. Refer to PS memo 97-1 for establishing this level in consideration of APEN exempt emission units.
4. Operational/maintenance requirements for control equipment which provide the Division with confidence that the stated emission limitation is occurring. (See #11 in synthetic minor section above.)
5. A requirement to follow the recordkeeping plan which was submitted, that will be used to show how compliance will be achieved. In conjunction with this, a

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requirement to follow any compliance plan required to be developed in order to prove synthetic minor source status. (See #10 in true minor section above.)

6. A no backsliding provision which notes that if the source cannot meet the synthetic minor limit, a full major source analysis must be conducted and that the source cannot operate at the major source level until the major source permit has been obtained. This applies to operating permits and construction permits.
7. Monitoring requirements, as approved by the Construction Permit Unit Leader, including CEMs or parametric monitoring of control equipment.
8. A requirement to send in a notification to EPA Region 8 to gain synthetic minor status for HAPs.
9. Compliance demonstration requirements including stack testing or mass balance calculation procedures. A condition must state that stack tests results will be converted to a monthly or annual rate by proportioning the test results by the allowable hours of operation per month or year. If the resulting monthly emissions are more than the monthly emission limit the source will be deemed to be in non-compliance.
10. All of the true minor conditions listed above that are not overridden by the conditions in this section.

## **MAJOR SOURCES**

1. Emission limits reflecting BACT or LAER. These limits will typically be in pounds per hour, lbs/MMBtu or parts per million.
2. Pre/Post construction ambient monitoring requirements as required through consultation with the Technical Services Program.
3. Rolling 12 month emission and raw material/production limits.
4. All of the true minor and synthetic minor conditions listed above that are not overridden by the conditions in this section.

**There will be situations when this policy needs to be modified for a specific permit. This policy does not prohibit source specific permit conditions from being included on permits. The rationale for changes must be explained in the preliminary analysis.**

The standard conditions which will be used on permits are listed on the K drive under **stdcons**.

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Summary Table of State limits (in addition to any specific performance standards).

Permit Type	Annual Production	Annual Emission	Monthly Production	Monthly Emission
True Minors <sup>1</sup>	X	X		
Syn Minors <sup>1</sup>	X	X	X <sup>2</sup>	X <sup>2</sup>
Majors <sup>1</sup>	X	X		

1. May need shorter term (or additional) production/emission limits if there is an ambient impact issue that cannot be resolved with the source. Could be monthly, daily, or hourly.
2. Monthly limits in effect for first year of operation only.