

1. Each significant source included on the application meets all of the following standards which apply:

- i. RACT requirements under N.J.A.C. 7:27-16 or 19;
- ii. NSPS requirements;
- iii. PSD requirements under 40 CFR 52.21; and
- iv. All other applicable State or Federal air pollution control standards, codes, rules, or regulations; and

2. Each significant source incorporates advances in the art of air pollution control (also called "state of the art" or "SOTA"), developed for the kind and amount of air contaminant emitted by the equipment and control apparatus, if:

- i. The source meets the criteria at N.J.A.C. 7:27-8.12(a); and
- ii. The applicant proposes to construct, install, reconstruct, or modify the source.

New Rule, R.1998 d.231, effective May 4, 1998 (operative June 12, 1998).

See: 29 N.J.R. 3521(a), 30 N.J.R. 1563(b).

Former N.J.A.C. 7:27-8.11, Service fees, recodified to N.J.A.C. 7:27-8.6.

7:27-8.12 State of the art

(a) If an application proposes construction, installation, reconstruction, or modification of equipment and control apparatus which is a significant source meeting the following criteria, the applicant shall document state of the art (SOTA) for the source:

1. The equipment and control apparatus has a potential to emit any HAP at a rate equal to or greater than the SOTA Threshold in Appendix 1, Table B below; or
2. The equipment and control apparatus has a potential to emit any other air contaminant or category of air contaminant, except carbon dioxide (CO₂), at a rate equal to or greater than the SOTA threshold in Appendix 1, Table A incorporated herein by reference.

(b) For equipment and control apparatus with the potential to emit an air contaminant that meets the SOTA criteria in (a) above, documentation of SOTA is only required for the air contaminant(s) that meets those criteria. Documentation of SOTA is not required for an air contaminant if the equipment's potential to emit that air contaminant does not meet the criteria in (a) above.

(c) Documentation of SOTA is not required for equipment and control apparatus that has, for every air contaminant, a potential to emit that is less than the levels indicated in (a) above.

(d) For purposes of determining whether a source meets the threshold levels in (a) above, the potential to emit an air contaminant shall be calculated separately for each piece of equipment. If the equipment is served by control apparatus,

the equipment's potential to emit shall include fugitive emissions released from the equipment (but shall not include fugitive emissions released from the general infrastructure of the facility), and shall be calculated after controls, so that the effects of the control apparatus are included in the calculation of the equipment's potential to emit. This is consistent with the definition of "potential to emit" at N.J.A.C. 7:27-8.1. For example:

1. If two or more separate pieces of equipment are to be vented through the same control apparatus, the relative contribution made by each piece of equipment to the emissions from the control apparatus shall be calculated. Using these relative contributions, the applicant shall calculate each piece of equipment's potential to emit; and

2. If one piece of equipment is to be vented through two or more control apparatus, the applicant shall calculate the piece of equipment's potential to emit using the emissions from all of the control apparatus.

(e) An applicant shall document SOTA by complying with all of the following that apply:

1. For an air contaminant subject to LAER (Lowest Achievable Emission Rate) requirements pursuant to N.J.A.C. 7:27-18, compliance with LAER requirements for that air contaminant represents SOTA. LAER is a case by case determination;

2. For an air contaminant subject to BACT (Best Available Control Technology) requirements pursuant to 40 CFR 52.21, compliance with BACT requirements represents SOTA. BACT is a case-by-case determination;

3. For an air contaminant that is a HAP, emitted by equipment for which MACT (Maximum Achievable Control Technology) requirements have been promulgated in 40 CFR Part 63, compliance with MACT requirements represents SOTA;

4. For an air contaminant emitted by equipment for which New Source Performance Standards (NSPS) have been promulgated on or after August 2, 1995, compliance with the NSPS represents SOTA;

5. For an air contaminant not subject to (e)1 through 4 above, SOTA shall be documented through one of the following options. The applicant may choose which option to pursue:

i. An applicant shall document compliance with a SOTA Manual (available from the Department at the address in N.J.A.C. 7:27-8.4(b)) that applies to the source;

ii. If the source is eligible for a general permit under N.J.A.C. 7:27-8.8, an applicant shall register for the general permit in accordance with N.J.A.C. 7:27-8.8; or

iii. An applicant shall document compliance with a case by case SOTA standard determined through the process detailed in (f) below.

(f) A case by case SOTA standard shall be determined by the Department based on a demonstration by the applicant, using a "top down" approach. To perform a "top down" SOTA demonstration, the applicant shall:

1. Identify and evaluate a list of air pollution control technologies or measures that may be applied to the source. This list shall not be limited to measures that have been applied to other existing sources in this same source category. The list shall include measures applied to sources in similar source categories, as well as innovative control technologies, modification of the process or process equipment, other pollution prevention measures, and combinations of the above measures; and

2. Arrange the measures on the list in descending order of air pollution control effectiveness. The first-listed or "top" measure shall constitute SOTA for the source unless the applicant provides one of the following:

i. A demonstration that the top measure should be eliminated from consideration because it is technically infeasible, based on physical, chemical, or engineering principles, and/or technical difficulties that would prevent the successful application of the measure;

ii. A demonstration that the top measure should be eliminated from consideration based on its environmental impacts. The justification shall show that the adverse environmental effects of the top measure (for example, effects on water or land, HAP emissions, or increased environmental hazards), when compared with its air contaminant emission reduction benefits, would make use of the top measure unreasonable;

iii. A demonstration that the top measure should be eliminated from consideration based on its economic impacts. The justification shall show that the total and incremental costs of the top measure are greater than the total and incremental costs of the proposed measure(s); and that the extra costs, when compared with the air contaminant emission reduction benefits resulting from the top measure, would make use of the top measure unreasonable. All costs shall be calculated using the techniques in the latest edition of EPA's control cost manual; or

iv. A demonstration that the top measure should be eliminated from consideration based on its energy impacts. The justification shall show that the top measure uses fuels that are not reliably available; or that the energy consumed by the top measure is greater than the proposed measure(s), and that the extra energy used, when compared with the air contaminant emission reduction benefits resulting from the top measure, would make use of the top measure unreasonable; and

3. If the top measure is eliminated from consideration under any of the provisions at (f)2i through iv above, the applicant shall evaluate each successive measure on the

list, using the procedures described in (f)2 above, until a measure is reached that is not eliminated. Upon the Department's approval of the SOTA demonstration, this measure shall constitute the case by case SOTA for the source.

New Rule, R.1998 d.231, effective May 4, 1998 (operative June 12, 1998).

See: 29 N.J.R. 3521(a), 30 N.J.R. 1563(b).

Former N.J.A.C. 7:27-8.12, Request for an adjudicatory hearing, recodified to N.J.A.C. 7:27-1.32.

Public Notice: Revised SOTA technical manual 13.

See: 35 N.J.R. 1961(b).

Public Notice: Opportunity to Comment on Draft SOTA Technical Manual for Boilers and Process Heaters.

See: 35 N.J.R. 4789(b).

Public Notice: Opportunity to Comment on Draft State-of-the-Art (SOTA) Manual for Stationary Combustion Turbines.

See: 36 N.J.R. 584(b).

Public Notice: Revised State-of-the-Art (SOTA) Technical Manual for Boilers and Process Heaters.

See: 36 N.J.R. 1833(a).

Amended by R.2005 d.392, effective November 21, 2005.

See: 36 N.J.R. 4607(a), 37 N.J.R. 16(b), 4415(a).

Added " , except carbon dioxide (CO₂) , " to (a)2.

Public Notice: Opportunity for Public Comment on the Proposed Withdrawal of the State-of-the-Art (SOTA) manuals for Volatile Organic Storage Tanks, Asphalt Plants and the Glass Industry.

See: 40 N.J.R. 5852(a).

Public Notice: Notice of Withdrawal of the State-of-the-Art (SOTA) manuals for Volatile Organic Storage Tanks, Asphalt Plants and the Glass Industry.

See: 41 N.J.R. 2348(a).

7:27-8.13 Conditions of approval

(a) The Department may establish conditions of approval of any preconstruction permit or certificate application.

(b) The Department may change the conditions of approval of a certificate:

1. At the time of renewal of a temporary operating certificate;

2. At the time of approval or renewal of a five-year operating certificate; or

3. At any time during the period a certificate is in effect, if the Department determines that such change is necessary to protect human health or welfare or the environment.

(c) Upon request of the Department, a permittee shall submit to the Department information relevant to the operation of equipment and control apparatus including, but not limited to:

1. A diagram of the facility indicating the location of any equipment and control apparatus, its applicable preconstruction permit and certificate number, any stack designation assigned by the Department, and any stack designation assigned by the person;

2. Records documenting any use of any equipment, control apparatus, or other source operation including, but not limited to, rate of production and hours of operation; and

in other years prior to implementation of emissions reduction measures; and

2. A demonstration that the emissions in (c)1 above were reduced by at least the amounts required in (b) above, between the end of the representative year and the date upon which EPA proposed the MACT or GACT standard.

(d) If the Department approves the compliance extension, the Department will incorporate the compliance extension into the operating permit for the facility. The owner or operator of a source operation for which a compliance extension is approved, and incorporated by the Department into the operating permit, may delay compliance with the MACT or GACT standard otherwise applicable to the source operation for six years after the original compliance date, provided that all conditions of the operating permit are met, and the emission reductions demonstrated to have been achieved pursuant to (c) above are maintained throughout that time.

(e) A compliance extension pursuant to this section shall not be available with respect to any standard or requirement promulgated by EPA to protect health and the environment pursuant to 42 USC 7412(f). If EPA promulgates such a health-based standard, any facility subject to the health-based standard shall comply with such standard according to the schedule set by EPA.

New Rule, R.1995 d.493, effective September 5, 1995 (operative October 8, 1995).
See: 27 N.J.R. 1040(a), 27 N.J.R. 3421(a).

7:27-22.35 Advances in the art of air pollution control

(a) Newly constructed, reconstructed, or modified equipment and control apparatus which constitutes a significant source operation shall incorporate advances in the art of air pollution control as developed for the kind and amount of air contaminant emitted by the applicant's equipment and control apparatus as provided in this section.

(b) For equipment and control apparatus with a potential to emit hazardous air pollutants at less than the de minimis levels specified by the EPA pursuant to 42 U.S.C. §7412(g) and with a potential to emit less than five tons per year of any other air contaminant, except carbon dioxide (CO₂), the applicant need not document advances in the art of air pollution control, but instead shall document compliance with:

1. Reasonably available control technology (RACT) for the air contaminants emitted as set forth in this chapter;
2. Standards of Performance for New Sources of Air Pollution (NSPS), where applicable, as set forth at 40 CFR 60;
3. Any National Emission Standards for Hazardous Air Pollutants (NESHAP), where applicable, as set forth at 40 CFR 61, 63 or promulgated under 42 USC 7412; and
4. Any other applicable State or Federal standard or regulation, including any general operating permit issued pursuant to N.J.A.C. 7:27-22.14 which applies to that source operation.

(c) For equipment and control apparatus with a potential to emit any hazardous air pollutant equal to or greater than the de minimis levels specified by the EPA pursuant to 42 U.S.C. §7412(g) or with a potential to emit five tons per year or more of any other air contaminant, except carbon dioxide (CO₂), the applicant shall document advances in the art of air pollution control, except for CO₂, in accordance with the following criteria, as applicable:

1. Best Available Control Technology (BACT) where applicable, as set forth at 50 CFR 52.21 for air contaminant emission increases subject to standards for prevention of significant deterioration (PSD) pursuant to 40 CFR 52.21;

2. Lowest Achievable Emission Rate (LAER) where applicable, as set forth at 40 CFR 51.165(a)(xiii) and N.J.A.C. 7:27-18 for air contaminants which cause a significant net emissions increase of a nonattainment air contaminant in an area which is nonattainment for that contaminant;

3. Maximum Achievable Control Technology (MACT) or Generally Achievable Control Technology (GACT), where applicable, for air contaminants subject to 40 CFR Subpart 63, governing HAPs;

4. A general operating permit issued pursuant to N.J.A.C. 7:27-22.14 which applies to that source operation; and

5. For any other air contaminant not covered under (c)1, 2, 3, or 4 above, emitted by a source operation with the potential to emit five or more tons per year of that air contaminant, except carbon dioxide (CO₂), the use of up-to-date technology and methods, reflected in equipment, control apparatus, and procedures, that when applied to an emission source will reasonably minimize emissions of that contaminant.

i. The Department will periodically publish technical manuals containing technology, methods, and performance levels which can be used by applicants for demonstrating advances in the art of air pollution control, after public input and comment. Such technology, methods and performance levels shall have been demonstrated to be reliable for similar air contaminant discharge parameters, and shall be available at reasonable cost commensurate with the reduction in air pollution.

ii. Once the Department has published a technical manual for advances in the art of air pollution control pursuant to (c)5i above, any application submitted which shows compliance with the technical manual shall be considered to incorporate advances in the art of air pollution control for the source operations covered by the technical manual. The Department will periodically review and update the technical manuals, with public notice and input. If the Department amends a technical manual, only applications submitted after the final publication of the amended technical manual shall be subject to it.

iii. Instead of relying on a technical manual for advances in the art of air pollution control, the applicant may propose case by case advances in the art of air pollution control, applicable to a specific source operation. If the Department confirms that the proposal includes up-to-date technology and methods reflected in equipment and procedures, that when applied to an emission source will reasonably minimize emissions, this shall constitute advances in the art of air pollution control for that specific source operation.

New Rule, R.1995 d.493, effective September 5, 1995 (operative October 8, 1995).
 See: 27 N.J.R. 1040(a), 27 N.J.R. 3421(a).
 Amended by R.1999 d.242, effective August 2, 1999 (operative August 31, 1999).
 See: 30 N.J.R. 2396(a), 31 N.J.R. 2200(a).
 In (c)1, changed CFR reference.
 Public Notice: Revised State-of-the-Art (SOTA) Technical Manual for Boilers and Process Heaters.
 See: 36 N.J.R. 1833(a).
 Amended by R.2005 d.392, effective November 21, 2005.
 See: 36 N.J.R. 4607(a), 37 N.J.R. 16(b), 4415(a).
 Added “, except carbon dioxide (CO₂)” to the introductory paragraphs of (b) and (c) and (c)5.
 Public Notice: Opportunity for Public Comment on the Proposed Withdrawal of the State-of-the-Art (SOTA) manuals for Volatile Organic Storage Tanks, Asphalt Plants and the Glass Industry.
 See: 40 N.J.R. 5852(a).
 Public Notice: Notice of Withdrawal of the State-of-the-Art (SOTA) manuals for Volatile Organic Storage Tanks, Asphalt Plants and the Glass Industry.
 See: 41 N.J.R. 2348(a).

APPENDIX

TABLE A

**Thresholds for Reporting Emissions of Air Contaminants
 Other than Hazardous Air Pollutants (HAPs)**

Air Contaminant	Hourly Emissions (pounds per hour)
VOC	0.05
TSP	0.05
PM-10	0.05
NO _x	0.05
CO	0.05
SO ₂	0.05
Any other air contaminant ⁽¹⁾	0.05

(1) This air contaminant category shall apply to any other air contaminant (except CO₂), other than hazardous air pollutants (HAPs) that the facility has the potential to emit in a quantity greater than or equal to 100 tons per year.

TABLE B

**Thresholds for Reporting Emissions of Hazardous Air
 Pollutants (HAPS)**

CAS Number	Air Contaminant	Annual Emissions	
		(tons per year)	(pounds per year)
75070	Acetaldehyde	0.9	1800
60355	Acetamide	0.1	200
75058	Acetonitrile	0.4	800
98862	Acetophenone	0.1	200
53963	2-Acetylaminofluorene	0.0005	1

CAS Number	Air Contaminant	Annual Emissions	
		(tons per year)	(pounds per year)
107028	Acrolein	0.004	8
79061	Acrylamide	0.002	4
79107	Acrylic acid	0.06	120
107131	Acrylonitrile	0.03	60
107051	Allyl chloride	0.1	200
92671	4-Aminobiphenyl	0.1	200
62533	Aniline	0.1	200
90040	o-Anisidine	0.1	200
71432	Benzene	0.2	400
92875	Benzidine	0.00003	0.06
98077	Benzotrichloride	0.0006	1.2
100447	Benzyl chloride	0.01	20
92524	Biphenyl	1	2000
117817	Bis(2-ethylhexyl)phthalate	0.05	1000
542881	Bis(chloromethyl)ether	0.00003	0.06
75252	Bromoform	1	2000
106990	1,3-Butadiene	0.007	14
156627	Calcium cyanamide	1	2000
105602	Caprolactam	1	2000
133062	Captan	1	2000
63252	Carbaryl	1	2000
75150	Carbon disulfide	0.1	200
56235	Carbon tetrachloride	0.1	200
463581	Carbonyl sulfide	0.5	1000
120809	Catechol	0.5	1000
133904	Chloramben	0.1	200
57749	Chlordane	0.001	2
7782505	Chlorine	0.01	20
79118	Chloroacetic acid	0.01	20
532274	2-Chloroacetophenone	0.006	12
108907	Chlorobenzene	1	2000
510156	Chlorobenzilate	0.04	80
67663	Chloroform	0.09	180
107302	Chloromethyl methyl ether	0.01	20
126998	Chloroprene	0.1	200
1319773	Cresols/Cresylic acid	0.1	200
95487	o-Cresol	0.1	200
108394	m-Cresol	0.1	200
106445	p-Cresol	0.1	200
98828	Cumene	1	2000
94757	2,4-D	1	2000
547044	DDE	0.001	2
334883	Diazomethane	0.1	200
132649	Dibenzofurans	0.5	1000
96128	1,2-Dibromo-3-chloropropane	0.001	2
84742	Dibutylphthalate	1	2000
106467	1,4-Dichlorobenzene	0.3	600
91941	3,3-Dichlorobenzidine	0.02	40
111444	Dichloroethyl ether	0.006	12
542756	1,3-Dichloropropene	0.1	200
62737	Dichlorvos	0.02	40
111422	Diethanolamine	0.5	1000
121697	N,N-Dimethylaniline	0.1	200
64675	Diethyl sulfate	0.1	200
119904	3,3-Dimethoxybenzidine	0.01	20
60117	4-Dimethyl aminoazobenzene	0.1	200
119937	3,3-Dimethyl benzidine	0.0008	1.6
79447	Dimethyl carbamoyl	0.002	4