

Summary of BACT and SIP Controls and Emission Rates

DEC BACT and SIP Findings Summary Table for Chena Power Plant

Pollutant	BACT Emission Limit	BACT Control Device or Operational Limitation	Effective Dates of Control/Limit
<i>Coal-Fired Boilers - 497 MMBtu/hr (combined)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
SO ₂	0.25% sulfur by weight	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
	0.301 lb/MMBtu (3-hr avg.)	No Additional Controls (periodic source testing)	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021

* Assumes precursor demonstration approved by EPA

DEC BACT and SIP Findings Summary Table for Fort Wainwright

Pollutant	BACT Emission Limit	BACT Control Device or Operational Limitation	Effective Dates of Control/Limit
<i>Coal Fired Boilers - 230 MMBtu/hr (each)</i>			
NO _x	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.045 lb/MMBtu (3-hr avg.)	Full Stream Baghouse	Existing
SO ₂	0.25% sulfur by weight	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
	0.12 lb/MMBtu (3-hr avg.)	Dry Sorbent Injection	Title I Permit App. by June 9, 2020 Effective no later than October 1, 2023
<i>Emergency Engines, Generators, and Fire Pumps</i>			
NO _x	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.015 - 1.0 g/hp-hr (3-hr avg.)	Good Combustion Practices and Limited Operation	Existing
SO ₂	15 ppmw sulfur in fuel	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
<i>Fuel Oil Boilers</i>			
NO _x	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.012 lb/MMBtu (3-hr avg.)	Good Combustion Practices and Limited Operation	Existing
SO ₂	15 ppmw sulfur in fuel	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
<i>Material Handling Sources (Coal Prep and Ash Handling)</i>			
PM _{2.5}	0.0025 - 0.02 gr/dscf	Enclosed Emission Points and Good Operating Practices	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021

* Assumes precursor demonstration approved by EPA

DEC BACT and SIP Findings Summary Table for Zehnder Facility

Pollutant	BACT Emission Limit	BACT Control Device or Operational Limitation	Effective Dates of Control/Limit
<i>EUs 1 and 2 - Fuel Oil-Fired Simple Cycle Gas Turbines - 268 MMBtu/hr (each)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.012 lb/MMBtu (3-hr avg.)	Low Ash Fuel and Good Combustion Practices	Existing
SO ₂	< 70 tpy Facility Wide ORL	N/A	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
	1,000 ppmw sulfur in fuel	BACM Measure: 18 AAC 50.078	September 1, 2022
<i>EUs 3 and 4 - Diesel-Fired Emergency Generators 28 MMBtu/hr (each)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.32 g/hp-hr	Good Combustion Practices and Limited Operation	Existing
SO ₂	< 70 tpy Facility Wide ORL	N/A	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
	1,000 ppmw sulfur in fuel	BACM Measure: 18 AAC 50.078	September 1, 2022
<i>EUs 10 and 11 - Diesel-Fired Boilers 1.7 MMBtu/hr (each)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.012 lb/MMBtu	Good Combustion Practices and 40 C.F.R. 63 Subpart JJJJJ	Existing
SO ₂	< 70 tpy Facility Wide ORL	N/A	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
	1,000 ppmw sulfur in fuel	BACM Measure: 18 AAC 50.078	September 1, 2022

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DEC BACT and SIP Findings Summary Table for North Pole Power Plant

Pollutant	BACT Emission Limit	BACT Control Device or Operational Limitation	Effective Dates of Control/Limit
<i>EUs 1 and 2 Fuel Oil-Fired Simple Cycle Gas Turbines - 672 MMBtu/hr (each)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.012 lb/MMBtu (3-hr avg.)	Low Ash Fuel, Limited Operation, and Good Combustion Practices	Existing
SO ₂	1,000 ppmw sulfur deliveries fuel on curtailment days	Certified Statement or Approved Analysis of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than November 1, 2020
	15 ppmw sulfur in fuel October 1 – March 31 (natural gas optional)	Certified Statement or Approved Analysis of Sulfur Content	Title I Permit App. by June 9, 2022 Effective no later than October 1, 2023
<i>Combined Cycle Gas Turbines - 455 MMBtu/hr (each)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.012 lb/MMBtu (3-hr avg.)	Low Ash Fuel, Limited Operation, and Good Combustion Practices	Existing
SO ₂	50 ppmw sulfur in fuel (except during startup) (natural gas optional)	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
<i>Diesel-Fired Emergency Generator 400 kW</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.32 g/hp-hr (3-hr avg.)	Good Combustion Practices, Positive Crankcase Ventilation, and Limited Operation	Existing
SO ₂	0.05 weight percent sulfur in fuel	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
<i>Propane-Fired Boilers 5.0 MMBtu/hr (each)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.008 lb/MMBtu (3-hr avg.)	Good Combustion Practices and Propane as Fuel	Existing
SO ₂	120 ppmv sulfur in fuel	Certified Statement of Sulfur Content	Existing

* Assumes precursor demonstration approved by EPA

DEC BACT and SIP Findings Summary Table for Fairbanks Campus Power Plant

Pollutant	BACT Emission Limit	BACT Control Device or Operational Limitation	Effective Dates of Control/Limit
<i>Dual Fuel-Fired Boiler – 295.6 MMBtu/hr</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.012 lb/MMBtu	Fabric Filters (Baghouse)	Existing
SO ₂	0.25% sulfur by weight	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
	0.2 lb/MMBtu (30-day avg.)	No additional control	Existing
<i>Diesel-Fired Engines</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.015 - 1.0 g/hp-hr (3-hr avg.)	Positive Crankcase Ventilation, Good Combustion Practices, and Limited Operation	Existing
SO ₂	15 ppmw sulfur in fuel	Certified Statement or Approved Analysis of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
<i>EUs 3 and 4 - Fuel Oil Boilers</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	0.012 lb/MMBtu (Diesel 3-hr avg.) 0.0075 lb/MMBtu (N.G. 3-hr avg.)	Good Combustion Practices and Limited Operation	Existing
SO ₂	1,000 ppmw sulfur in fuel (Diesel) 0.60 lb/MMscf (Natural Gas) October 1 – March 31	Certified Statement or Approved Analysis of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than October 1, 2020
	15 ppmw sulfur in fuel (Diesel) 0.60 lb/MMscf (Natural Gas) October 1 – March 31	Certified Statement or Approved Analysis of Sulfur Content	Title I Permit App. by June 9, 2021 Effective no later than October 1, 2023
<i>Pathogenic Waste Incinerator (83 lb/hr)</i>			
NOx	Precursor Demonstration*	No additional control	N/A
PM _{2.5}	4.67 lb/ton	Limited Operation and Multiple Chamber Design	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
SO ₂	15 ppmw sulfur in liquid fuel	Certified Statement of Sulfur Content	Title I Permit App. by June 9, 2020 Effective no later than June 9, 2021
<i>Material Handling Sources (Coal Prep and Ash Handling)</i>			
PM _{2.5}	0.003 - 0.050 gr/dscf	Enclosed Emission Points, fabric filters, and vents	Title I Permit App. by June 9, 2020
	5.50E-05 lb/ton	Enclosure Emission Points	Effective no later than June 9, 2021

* Assumes precursor demonstration approved by EPA