

Table 6.1. Run Years and Analysis Year Mapping Used in the EPA Base Case 2006

Run Year	Years Represented
2010	2009 - 2012
2015	2013 - 2017
2020	2018 - 2022
2025	2023 - 2027
2032	2028 - 2035

Table 6.2. First Stage Retrofit Assignment Scheme in EPA Base Case 2006

Plant Type	Retrofit Option 1st Stage	Criteria
Coal Steam Plant	Coal Early Retirement	All coal steam boilers
	Coal Steam SCR	All coal steam boilers that are 100 MW or larger and do not possess an existing SCR control option
	Coal Steam SNCR – Cyclone Boilers	All cyclone coal steam boilers that are 25 MW or larger and smaller than 200 MW, and do not possess an existing post combustion NOx control option
	Coal Steam SNCR – Non Cyclone Boilers and Non FBC Boilers	All non cyclone and non FBC coal steam boilers that are 25 MW or larger and smaller than 200 MW, and do not possess an existing post combustion NOx control option
	Coal Steam SNCR – FBC Boilers	All coal FBC units that are 25 MW or larger and do not possess an existing post combustion NOx control option
	Coal Steam to Combined Cycle Repowering	All coal steam boilers
	Coal Steam to IGCC Repowering	All coal steam boilers
	High Sulfur Bituminous Hg Control Option	All coal steam boilers larger than 25 MW and burning BG & BH bituminous coal
	Lignite Hg Control Option	All coal steam boilers larger than 25 MW and burning Lignite coal
	Low Sulfur Bituminous Hg Control Option	All coal steam boilers larger than 25 MW and burning non BG & BH bituminous coal
	LSD Scrubber	All unscrubbed coal steam boilers 100 MW or larger and burning non BG & BH coal
	LSD Scrubber + SCR	All unscrubbed coal steam boilers 100 MW or larger and burning non BG & BH coal, and do not possess an existing SCR NOx control option
	LSD Scrubber + SNCR	All unscrubbed coal steam boilers 100 MW or larger and burning non BG or BH coal, and do not possess an existing post combustion NOx control option
	LSFO Scrubber	All unscrubbed coal steam boilers 100 MW or larger
	LSFO Scrubber + SCR	All unscrubbed coal steam boilers 100 MW or larger and do not possess an existing SCR NOx control option
	LSFO Scrubber + SNCR	All unscrubbed coal steam boilers 100 MW or larger and do not possess an existing post combustion NOx control option
Sub-Bituminous Hg Control Option	All coal steam boilers larger than 25 MW and burning Sub Bituminous coal	
Combined Cycle	CC Early Retirement	All combined cycle units
Combustion Turbine	CT Early Retirement	All combustion turbine units
Nuclear Plants	Nuke Early Retirement	All nuclear power plants
O/G Steam	Oil and Gas Steam SCR	All O/G steam boilers 25 MW or larger that do not possess an existing post combustion NOx control option
	Oil and Gas Steam SNCR	All O/G steam boilers 25 MW or larger that do not possess an existing post combustion NOx control option
	Oil and Gas Steam to Combined Cycle Repowering	All O/G Steam boilers
	Oil/Gas Early Retirement	All O/G steam boilers

Table 6.3. Second Stage Retrofit Assignment Scheme in EPA Base Case 2006

Plant Type	Retrofit Option 1st Stage	Retrofit Option 2nd Stage**
Coal Steam Plants	NO _x Control †	SO ₂ Control Option or Hg Control Option
	SO ₂ Control Option ††	NO _x Control Option or Hg Control Option
	SO ₂ Control Option †† + SCR	Hg Control Option
	SO ₂ Control Option †† + SNCR	Hg Control Option
	Hg Control Option*	None

Notes

†"NO_x Control Option" implies that a model plant may be retrofitted with one of the following NO_x control technologies: SCR, low NOX SNCR, high NOX SNCR - cyclone, or high NOX SNCR - non cyclone

††"SO₂ Control Option" implies that a model plant may be retrofitted with one of the following SO₂ control technologies: LSFO scrubber, LSD scrubber, or MEL scrubber

*Hg Control Option" implies that a model plant may be retrofitted with one of the following activated carbon injection technology options for reduction of mercury emissions: low sulfur bituminous Hg control, high sulfur bituminous Hg control, sub-bituminous Hg control, or lignite Hg control.

**When modeling certain environmental regulatory specification in future policy runs, 2nd stage retrofit options, such as SO₂ and NO_x controls, may be offered following a first-stage mercury control.

Table 6.4. Trading and Banking Rules in EPA Base Case 2006

	SO₂	Ozone Season NO_x	Annual NO_x	Mercury
Coverage	All fossil units > 25 MW	All fossil units > 25 MW *	All fossil units > 25 MW **	All coal units > 25 MW
Timing	Annual	Summer (May - September)	Annual	Annual
Size of initial bank	9,799 thousand tons starting in 2009	The bank starting in 2009 is assumed to be zero.	The bank starting in 2009 is assumed to be zero.	The bank starting in 2009 is assumed to be zero.
Rules				
Total Allowances (thousand tons)	2007 - 2009: 9,470 2010 - 2030: 8,950	2009 - 2014: 568 2015 - 2035: 485	2009: 1,720 2010 - 2014: 1,522 2015 - 2035: 1,268	2009 - 2017: 38 2018 - 2035: 15
Total Allowances Less NSR and North Carolina SO₂ Allowance Retirements*** (thousand tons)	2009: 19,067 2010: 8,735 2011: 8,729 2012: 8,724 2013 - 2015: 8,522 2016 - 2017: 8,518 2018: 8,585 2019: 8,582 2020 - 2035: 8,579	2009 - 2014: 568 2015 - 2035: 485	2009: 1,720 2010 - 2014: 1,522 2015 - 2035: 1,268	2009 - 2017: 38 2018 - 2035: 15
Retirement Ratio	2009: 1.0 2010 - 2014: 2.0 2015 - 2035: 2.86	2009 - 2035: 1.0	2009 - 2035: 1.0	2009 - 2035: 1.0

*Alabama, Arkansas, Connecticut, Delaware, District of Columbia, Florida, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin.

** Alabama, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, Wisconsin, Delaware, New Jersey.

***Allowances assumed to retire due to the North Carolina Clean Smokestacks Rule are 30.2 thousand tons in the years that are mapped into 2010 and 137 thousand tons in the years that are mapped into 2015 and later.