Appendix A — Phase II Allowance Allocations

Introduction

Appendix A presents B/G and boiler level allowance allocations in four tables, as described in detail below. Tables A.1 and A.3 present annual allowance allocations for the period 2000-2009. Tables A.2 and A.4 present annual allowance allocations for the years 2010 and thereafter.

Boiler/Generator Allowances, Provision ID "Flags," and Boiler Level Phase II Allowances

Tables A.1 and A.2 depict B/G level Phase II allowance allocations calculated under the provisions of Title IV, as described in Chapter 2, while Tables A.3 and A.4 depict boiler (unit) level allocations. In addition, Tables A.1 and A.2 depict two B/G level provision identification "flags," FLAG1 and FLAG2, for each B/G. The two flags are coded to identify the provision(s) under which each B/G receives allowance allocations. Tables A.1 and A.2 contain one record (row) for every boiler-generator (B/G) combination at each plant in the NADB, while Tables A.3 and A.4 contain 1 record (row) for each boiler in the NADB. Each entry in Tables A.3 and A.4 represents the sum of the B/G level allocations for the listed boiler.

Tables A.1 and A.2 list, for each B/G, the NADB sequence number (a unique B/G identifier), state, plant name, and boiler and generator ID, along with Phase II allowances and flags in the following categories:[12]

- *Unadjusted Basic Allowances*, calculated pursuant to subsections b, c, d, e, f, g, h, i, and j of section 405 (Column A).

- *Adjusted Basic Allowances*, calculated pursuant to §403(a)(1). Allowances in column A, adjusted to a total of 8.9 million (Column B).

- *Deduction for the Energy Conservation and Renewable Energy Reserve*, calculated pursuant to §404(g) to a total of 30,000 (Column C). Note that this deduction applies only to allowance allocations during the 2000-2009 period; therefore, Column C reads "n/a" (not applicable) for the allocations for 2010 and thereafter shown in Tables A.2 and A.4.

- *Deduction for Qualifying Clean Coal Technology Repowering*, calculated pursuant to §405(a)(2) to a total of 2713 (Column D). Note that this deduction applies only to allowance allocations during the 2000-2009 period; therefore, Column D reads "n/a" (not applicable) for the allocations for 2010 and thereafter shown in Tables A.2 and A.4.

- *Deduction for the Special Allowance Reserve*, to be used for EPA's auctions and calculated pursuant to §416(b) to a total of 250,000 (Column E).

[12] Tables A.3 and A.4 omit the NADB sequence number and provision ID "flags."

- *Final Basic Allowances*, allowances from Column B, adjusted by the deductions for the Conservation and Renewable Energy Reserve, Repowering Reserve, and "Special Allowance Reserve" pursuant to §§405(g), 409, and 416, (shown in Columns C, D, and E, respectively). In Tables A.2 and A.4, Column F shows allowances from Column B adjusted by the deduction for the "Special Allowance Reserve" pursuant to §416 only (shown in Column E).

- *Bonus Allowances*, including both bonus allowances allocated pursuant to paragraphs (b)(2), (c)(4), (d)(3), and (h)(2) of section 405 and "Clean States" bonus allowances allocated pursuant to §406 (Column G). Note that bonus allowances are allocated during the 2000-2009 period only; therefore, Column G reads "n/a" (not applicable) for the allocations for 2010 and thereafter shown in Tables A.2 and A.4.

- *Additional Allowances for Phase I B/Gs*, the additional 50,000 allowances allocated under §405(a)(3) (Column H).

- *Total Annual Allowances*, the sum of Columns F, G, and H.

- *Boiler/Generator Level Phase II Provision ID "Flags."* Columns J and K show the two provision identification "flags", FLAG1 and FLAG2. Following is an explanation of these two flags.

  — *FLAG1 (format XX.X)*: the number to the left of the decimal indicates which category each B/G fits into for regular "basic" allowances. In addition, the number to the right of the decimal indicates which B/Gs are eligible to receive bonus allowances or "additional basic" allowances. For clean coal or Table B B/Gs, the flag indicates which choice was elected by the utility or by EPA, as previously discussed. The meanings for the values of each flag are explained further in the following table.

Explanation of Provision ID Flag FLAG1

Flag Value	Explanation	Relevant Provision
1.0	Coal/Oil-fired B/G ≥75 MW and ≥2.5 lb	§405(b)(1)
1.1	Coal/Oil-fired B/G ≥75 MW and 1.2-2.5 lb (.1=eligible for bonus)	§405(b)(2)
2.0	Coal/Oil-fired B/G <75 MW and ≥2.5 lb in a system >250 Mw	§405(c)(1)
2.1	Coal/Oil-fired B/G <75 MW and 1.2-2.5 lb in a system >250 MW (.1=eligible for bonus under §405(c)(4))	§405(c)(1)
3.0	Coal/Oil-fired B/G <75 MW and ≥1.2 lb in a system <250 MW	§405(c)(2)
4.0	Coal B/G 0.6-1.2 lb which elects 65% [13]	§405(d)(4)
4.1	Coal B/G 0.6-1.2 lb which elects 60% (bonus)	§405(d)(3)(B)
4.2	Coal B/G 0.6-1.2 lb which elects baseline x 120% (basic only)	§405(d)(2)
5.0	Coal B/G <0.6 lb which elects 65% [13]	§405(d)(4)
5.1	Coal B/G <0.6 lb which elects 60% (bonus)	§405(d)(3)(A)
5.2	Coal B/G <0.6 lb which elects baseline x 120% (basic only)	§405(d)(1)
6.0	Oil/Gas B/Gs 0.6-1.2 lb	§405(e)
7.0	Oil/Gas B/Gs <0.6 lb	§405(f)(1)
8.0	>90% Gas B/Gs	§405(h)(1)
9.0	B/Gs commencing operation 1986-1990	§405(g)(1)
10.0	B/Gs commencing operation 1990-1992 (but not in Table B)	§405(g)(3)
10.1	B/Gs commencing operation 1993-1995 whose construction commenced *prior to* January 1, 1991.	§405(g)(4)
10.2	B/Gs commencing operation 1993-1995 whose construction commenced *after* January 1, 1991.	§405(g)(4)
10.3	B/Gs commencing operation 1993-1995 whose operating utility has not submitted documentation regarding the unit's construction commencement date.	§405(g)(4)
11.0	Table B B/Gs which elect their Table B allowances	§405(g)(2)
11.1	Table B B/Gs which elect another provision, *except* for §405(g)(4)	§405(g)(2)
11.2	Table B B/Gs which elect §405(g)(4)	§405(g)(2)/(g)(4)
12.0	Not affected B/Gs including pre-enactment B/Gs 25 MW, B/Gs that are exempt cogenerators, B/Gs that are exempt solid waste combustors, exempt qualifying facilities (QFs) or independent power producers (IPPs), or B/Gs that were planned as of 1991 but as of 1998 were canceled.	Not Affected (See 40 CFR §72.6)
12.1	B/Gs which did not operate during the baseline period and which were retired prior to Enactment.	Not Affected
13.0	Post-1995 B/Gs (not in Table B)	§403(e)
14.0	Pre-enactment simple combustion turbines.	Not Affected (See 40 CFR §72.6)

[13] Applies to NSPS clean coal 1981-1985 B/Gs that elect §405(d)(4)

— *FLAG2 (format X.XX)* - in addition to the general provisions listed above, many B/Gs also fall under special provisions. This field contains two parts, because some B/Gs are affected by more than one special provision. The first part of the code is to the left of the decimal and indicates which B/Gs are affected by §405(i)(1), the Extra 50K for Phase I B/Gs, and the Clean States option (no B/G is in more than one of these categories). The second part of the code, which comes to the right of the decimal, indicates if a B/G is affected by another special provision (again, no B/G would be affected by more than one).

Explanation of Provision ID Flag FLAG2

Flag Value	Explanation	Relevant Provision
Number to left of decimal:		
1.	§405(i)(1) B/Gs	§405(i)(1)
2.	Extra 50K for Phase I B/Gs	§405(a)(3)
3.	Clean States 0.8 lbs — Eligible for Bonus 125 (but doesn't elect it)	§406
4.	Clean States 0.8 lbs — Eligible and elects bonus 125	§406
Number to right of decimal:		
.01	Coal/Oil-fired B/G <75MW and ≥1.2 lb	§405(c)(5)
.02	Coal/Oil-fired B/G ≥75 MW and ≥1.2 lb	§405(b)(3)
.03	Clean Coal Demos	§405(d)(5)
.04	Gas-to-Coal Conversion	§405(g)(5)
.05	Coal/Oil-fired B/G ≥75MW and ≥1.2 lb	§405(i)(2)
.06	Oil-to-Coal Conversion	§405(b)(4)
.07	Coal/Oil-fired B/G <75 MW and ≥1.2 lb	§405(c)(3)
.08	Oil/Gas Municipals	§405(j)
.09	Phase I B/G	§404(h)
.10	Utility/State Authority Serving City and Contiguous County	§405(f)(2)
.11	Clean Coal 1981-1985 B/Gs[14]	§405(d)(4)

[14] Gets code only if the B/G elects the option. In all other cases and provisions, code will appear for a B/G if the B/G is *eligible,* even if it does not elect the option.

Note: Tables A.1 through A.4 are not included in the electronic distribution of this report. The information contained in those tables may be found in electronic format as two dbase files, ALL_V22.dbf (B/G Level Allowance Allocations) and BLR_V22.dbf (Boiler Level Allowance Allocations). The formats for these two files are shown below.

Structure for database: ALL_V22.dbf **Number of data records:** 3842

Field	Field Name	Type	Width	Dec	Description
1	SEQ	Numeric		4	NADB Sequence Number
2	STATNAM	Character	20		NADB State Name
3	PNAME	Character	20		NADB Plant Name
4	BLRID	Character	6		NADB Boiler ID
5	GENID	Character	4		NADB Generator ID
6	BAS_UR09	Numeric	5		Unadjusted Basic Allowances 2000-2009
7	BAS_RA09	Numeric	5		Adjusted Basic Allowances 2000-2009
8	CONSREN	Numeric	4		Deduction for Conservation/Renewable Reserve
9	REPOWER	Numeric	4		Deduction for Repowering
10	AUCT_09	Numeric	4		Deduction for Special Allowance Reserve 2000-2009
11	FINBAS09	Numeric	5		Final Basic Allowances 2000-2009
12	TOTALBON	Numeric	5		Total Bonus Allowances
13	PI50_09	Numeric	4		§405(a)(3) Allowances 2000-2009
14	TOT_09	Numeric	6		Total Annual Allowances 2000-2009
15	FLAG1	Numeric	4	1	Provision ID Flag 1
16	FLAG2	Numeric	4	2	Provision ID Flag 2
17	BAS_UR10	Numeric	5		Unadjusted Basic Allowances 2010 and Later
18	BAS_RA10	Numeric	5		Adjusted Basic Allowances 2010 and Later
19	AUCT_10	Numeric	4		Deduction for Special Allowance Reserve 2010 and Later
20	FINBAS10	Numeric	5		Final Basic Allowances 2010 and Later
21	PI50_10	Numeric	4		§405(a)(3) Allowances 2010 and Later
22	TOT_10	Numeric	5		Total Annual Allowances 2010 and Later

Structure for database: BLR_V211.dbf **Number of data records:** 2913

Field	Field Name	Type	Width	Dec	Description
1	STATNAM	Character	20		NADB State Name
2	PNAME	Character	20		NADB Plant Name
3	BLRID	Character	6		NADB Boiler ID
4	BAS_UR09	Numeric	5		Unadjusted Basic Allowances 2000-2009
5	BAS_RA09	Numeric	5		Adjusted Basic Allowances 2000-2009
6	CONSREN	Numeric	4		Deduction for Conservation/Renewable Reserve
7	REPOWER	Numeric	4		Deduction for Repowering
8	AUCT_09	Numeric	4		Deduction for Special Allowance Reserve 2000-2009
9	FINBAS09	Numeric	5		Final Basic Allowances 2000-2009
10	TOTALBON	Numeric	5		Total Bonus Allowances
11	PI50_09	Numeric	4		§405(a)(3) Allowances 2000-2009
12	TOT_09	Numeric	6		Total Annual Allowances 2000-2009
13	BAS_UR10	Numeric	5		Unadjusted Basic Allowances 2010 and Later
14	BAS_RA10	Numeric	5		Adjusted Basic Allowances 2010 and Later
15	AUCT_10	Numeric	4		Deduction for Special Allowance Reserve 2010 and Later
16	FINBAS10	Numeric	5		Final Basic Allowances 2010 and Later
17	PI50_10	Numeric	4		§405(a)(3) Allowances 2010 and Later
18	TOT_10	Numeric	5		Total Annual Allowances 2010 and Later

Appendix B — Glossary

Introduction

Appendix B discusses a number of key terms as defined in §402, under 40 CFR §72.2, and/or for purposes of this report that are significant in the calculation of allowances. In particular, these include terms which (1) classify "affected units," (2) define unit characteristics used to calculate allowances, and (3) distinguish different groups of allowances. For definitions of all fields in NADB, refer to *National Allowance Data Base Version 2.2 Technical Support Document, 1998 Revision* (NADB TSD), prepared for U.S. EPA by E.H. Pechan Associates. For definitions of all fields in the Supplemental Data File, refer to "Appendix G: Technical Documentation for the Supplemental Data File," included in the NADB TSD and prepared for U.S. EPA by ICF Incorporated. The final section of this appendix is a list of the abbreviations and symbols used in the report.

Glossary of Key Terms

NOTE: THE DEFINITIONS INCLUDED HERE ARE FOR GENERAL INFORMATION PURPOSES ONLY. MANY KEY TERMS ARE ALSO DEFINED IN THE STATUTE AND THE REGULATIONS AT 40 CFR §72.2. THOSE DEFINITIONS ARE THE OFFICIAL TERMS GOVERNING THE PROGRAM.

(1) Classification of "Affected Units"

affected B/G: a boiler/generator, the boiler component of which is an affected unit.

affected source: a source that includes one or more affected units.

affected unit: any unit that is subject to emission reduction requirements or limitations under Title IV. (See also 40 CFR §72.6.)

boiler/generator: a single boiler-generator combination. As discussed in the Introduction, the terms "B/G", "B/G's", and "B/G level" are used *in this report* to refer to the same boiler-generator combination level that is used to identify individual data records in the NADB and SDF.

commenced commercial operation: to have "begun to generate electricity for sale, including the sale of test generation," (40 CFR §72.2). Because the generation of electricity occurs at the *generator*, however, the NADB lists a *boiler* on-line date which is used to categorize affected units for Phase II allowance allocations. Most often, it was assumed that the unit commenced operation at about the same time as the generator. For multi-header configurations with more than one generator online date, EPA used the oldest generator on-line date for the boiler on-line date, unless the boiler was newly added or was replaced. If the boiler was new or was replaced, EPA used the date of the boiler's first consumption of fuel, or the date of commercial operation of the new boiler as reported to EIA.

electric utility system: for purposes of §405(c)(5), the highest level of corporate aggregation satisfying the criteria of the provision, as shown by the UTILSYS data field from the SDF.

existing unit: a unit that commenced commercial operation before the date of enactment of this Title, including such units which are modified, reconstructed, or repowered after the date of enactment (i.e., November 15, 1990). Further, existing units do not include simple combustion turbines or units serving only generators with a nameplate capacity of 25 MW or less. (Existing combined-cycle combustion turbine units with auxiliary firing are defined in NADB as those with the NADB field "SO2CATEG" equal to either 6 or 9).[15]

generator: a device that produces electricity and was or is required to be reported as such on DOE Form EIA-860.

new unit: a unit that commences commercial operation on or after the date of enactment of this Title. Pursuant to the other provisions of Title IV, this includes units commencing commercial operation from November 15, 1990 through December 31, 1995. New units are defined to include *all* fossil fuel fired units, including coal steam, combined cycle, combustion turbines, etc.

operating utility: utility, as listed in the NADB.

repowering: replacement of an existing coal-fired boiler with one of a number of clean coal technologies. Also includes any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991 by the Department of Energy.

unit: a fossil fuel-fired combustion device.

utility system: the operating utility as listed by the UTILNAME data field from the NADB.

utility unit: a unit that serves (or served in 1985) a generator in any state that produces electricity for sale. This does not include units in commercial operation in 1985, but that did *not* serve a generator that produced electricity for sale during 1985. Pursuant to §402(17)(C), "a unit that cogenerates steam and electricity is not a 'utility unit', for purposes of this title, unless the unit provides more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale." (See also 40 CFR §72.6.)

(2) Unit Characteristics Used to Calculate Allowances

actual 1985 emission rate: the annual average SO_2 emissions rate for the unit, expressed in lbs/mmBtu, or each B/G's 1985 actual SO_2 emissions rate according to the NADB. In the provision descriptions in Chapter 2, the terms "1985 SO_2 rate" and "SO_2 rate" refer to rates defined under this paragraph.

---

[15] Note: the NADB 2.2 does not contain any simple combustion turbines with a SO2CATEG value of "4".

allowable 1985 emissions limit: a federally enforceable emissions limitation for SO_2 applicable to the unit in 1985, expressed in pounds per million Btu on an annualized basis. For units commencing commercial operation after 1985, this is the federally enforceable limit as defined in NADB. The allowance calculations were based on each B/G's 1985 annualized SO_2 limit according to NADB v2.2. In the provision descriptions in Chapter 2, the terms "1985 allowable SO_2 limit" and "1985 SO_2 limit" refer to annualized allowable rates defined under this paragraph.

baseline: the annual average fuel consumed (in mmBtu) by a unit or B/G during calendar years 1985, 1986, and 1987, according to "a corrected data base as established by the Administrator." (This database is the NADB). Adjustments are to be made for "periods during which a unit is shutdown for a continuous period of four calendar months or longer." For outage situations lasting at least four months, and up to the entire three-year baseline period, the adjusted baseline is calculated by multiplying the actual baseline by the ratio of the number of hours in a three-year span to the number of hours of operation for the unit during the 1985-87 period:

$$If\ 2{,}920 \quad \left[\begin{matrix}Number\ of\\ Outage\ Hours\end{matrix}\right] < 26{,}280,\ Then$$

$$\begin{matrix}Adjusted\\ Baseline\end{matrix} = \left[\frac{26{,}280}{26{,}280 - \left(\begin{matrix}Number\ of\\ Outage\ Hours\end{matrix}\right)}\right] \times \begin{matrix}Unadjusted\\ Baseline\end{matrix}$$

B/Gs which commenced commercial operation during 1985 were also given an adjusted baseline, based on the number of months *after* the beginning of 1985 the unit(s) commenced commercial operation:

$$\begin{matrix}Adjusted\\ Baseline\end{matrix} = \left(\frac{36}{36 - \left[\begin{matrix}Number\ of\ Months\\ not\ on\ line\ in\ 1985\end{matrix}\right]}\right) \times \begin{matrix}Unadjusted\\ Baseline\end{matrix}$$

capacity factor: defined in terms of the HT60SHR variable from the NADB. A B/G operating at a 60 percent capacity factor was calculated to consume the same number of Btus as shown for the HT60SHR field in the NADB.

nameplate capacity: generator nameplate capacity, as listed by the NADB data field NAMEPCAP.

(3) Groups of Allowances

additional allowances for Phase I units: allowances allocated pursuant to §405(a)(3) to Phase I affected units in certain states.

adjusted basic allowances: basic allowances calculated according to §§ 404 and 405, after being adjusted to 8.9 million, pursuant to §403.

allowance: an authorization, allocated to an affected unit, to emit one ton of SO_2 during or after a specified year.

basic Phase II allowance allocations: For calendar years 2000 through 2009, allowances allocated pursuant to §403 and subsections (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4), and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1); (i) and (j) of §405. For each calendar year beginning in 2010, pursuant to §403 and subsections (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4), and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1) and (3); (i) and (j) of §405.

final basic allowances: adjusted basic allowances, less the deductions for the various reserves.

Phase II bonus allowance allocations: for calendar years 2000 through 2009, and only for those years, allowances allocated pursuant to §403, subsections (a)(2), (b)(2), (c)(4), (d)(3), and (h)(2) of §405, and §406.

reserve: any bank of allowances established by the Administrator under Title IV.

total annual Phase II allowances: for 2000-2009, the sum of final basic allowances, bonus allowances, and additional allowances. For 2010 and later, the sum of final basic allowances and additional allowances.

unadjusted basic allowances: basic allowances calculated according to §§ 404 and 405, prior to being adjusted to 8.9 million, pursuant to §403.

It should be noted that section 402 does not include several definitions which are necessary to classify units and calculate allowances. Accordingly, EPA has developed definitions (incorporated at 40 CFR §72.2) as follows:

coal vs. oil/gas units: Under §405, allowances for "coal" units are calculated in a different manner from allowances for "oil/gas" units. Coal units have been defined in the NADB as units for which coal represents more than 50 percent of the total heat input on a Btu basis for the years 1985-87. Oil/Gas units are defined in the NADB as all remaining units.

List of Symbols and Abbreviations

Abbreviation/Symbol	Description
ADF	Adjunct Data File
bbl	Barrel
B/G	boiler/generator
BKWH	Billion Kilowatt-Hours
Btu	British thermal unit
CAAA	Clean Air Act Amendments of 1990
CEM	Continuous Emissions Monitoring
CFR	Code of Federal Regulations
DOE	Department of Energy
EIA	Energy Information Administration
EPA	U.S. Environmental Protection Agency
GW	Gigawatt
GWh	Gigawatt hour
KW	Kilowatt
KWh	Kilowatt hour
lbs	Pounds
mmBtu	Million Btu
MW	Megawatt
MWh	Megawatt hour
NADB	National Allowance Database
NURF	National Utility Reference File
NSPS	New Source Performance Standards
ORIS	Office of the Regulatory Information System
PC	Personal (micro)computer
RIA	Regulatory Impact Analysis
SAS	Statistical Analysis System
SDF	Supplemental Data File
SIP	State Implementation Plan
SO_2	Sulfur dioxide

Appendix C — SAS Source Code

Introduction

Appendix C shows the actual SAS source code used in the calculation of Phase II allowance allocations. For an explanation of the variable names used in the program, refer to *National Allowance Data Base Version 2.2 Technical Support Document* (NADB TSD), prepared for U.S. EPA by E.H. Pechan Associates. For definitions of al fields in the Supplemental Data File, refer to "Appendix G: Technical Documentation for the Supplemental Data File," included in the NADB TSD and prepared for U.S. EPA by ICF Incorporated. Following the source code are some programmer's notes regarding computational methods used for the calculations.

SAS Program Source Code

```
 /*********************************************************/;
/* PROGRAM:    P3RISC.SAS V.20                           */;
/* AUTHORS:    C.LEUBSDORF, A.KRECZKO, K.R.JAYARAMAN,    */;
/*             ICF KAISER INTERNATIONAL, INC.            */;
/*    DATE:    1/5/93, UPDATED 11/26/96                  */;
/*             2ND UPDATE 6/18/98   /A.KRECZKO           */;
/*             3RD UPDATE 8/05/98   /A.RATKOVSKY         */;
/* PURPOSE:    CALCULATES PHASE II ALLOWANCES FOR THE    */;
/*             NADB V2.2  DATABASE                       */;
/*                                                       */;
/*        **THESE ALLOWANCES USED FOR FINAL FR TABLES**  */;
/*                                                       */;
/*                                                       */;
/* LAST REVISION: 8/05/98                                */;
/*********************************************************/;
libname nadbmain 'c:\alex';
options ls=70 ps=500;
title 'National Allowance Database, Version 2.2';
title2 'Calculation of Final Phase II Allowance Allocations';

/*************************************************/
/*          Ratchet Adjustment Macro: adjtot         */
/*************************************************/

%macro adjtot(adjvar,datset,totlval,rndlvl,randvar);

/*************************************************/
/* This macro adjusts variables "adjusted" to a given*/
/* total to reach that total EXACTLY when rounded to */
/* the nearest whole allowance.                      */
/*                                                   */
/* Parameters:                                       */
/*                                                   */
/*       adjvar: Adjustment Variable-the variable to */
/*               be adjusted.                        */
/*          EXAMPLE: 405i1_p or finbas10             */
/*                                                   */
/*       datset: Dataset-the dataset to be adjusted. */
/*          EXAMPLE: nadbmain.V21 or nadbmain.V21out */
/*                                                   */
/*      totlval: The value of the total to which     */
/*               ADJVAR should be adjusted.          */
/*          EXAMPLE: 40.000 or 250000                */
/*                                                   */
/*      rndlvl: The level of rounding desired for    */
/*                ADJVAR.                            */

/*          EXAMPLE: .001  or 1                      */

/*                                                   */
/*      randvar: A variable to "randomize" the sort  */
/*                past the level sorted by adjvar--  */

/*                for cases where sorting by adjvar  */
/*                leaves several obs with equal      */
```

```
       /*               adjvar values at point where obs   */
/*                _n_ occurs.  Randomizes which of   */
/*                the obs with same adjvar value     */Page C-2
/*                will be adjusted.                  */
/*                                                   */
/*  Datasets:                                        */
/*                                                   */
/*      chk_tot: CHecKs TOTal of ADJVAR              */
/*                                                   */
/***************************************************/


PROC SUMMARY data=&datset;         /* first, create total of adjvar */
  VAR &adjvar;
  ID MERGER;
  OUTPUT OUT=chk_tot(KEEP=adj_val MERGER) SUM=adj_val;
RUN;

data chk_tot;                       /* then, compare that total with totlval */
  set chk_tot;
  call symput('tot_dif',(round(((1/&rndlvl)*(adj_val-&totlval)),&rndlvl)));
  run;

%if &tot_dif ^= 0 %then %do;        /* if the total needs adjusting */

     proc sort data=&datset;        /* sort by descending adjvar */
       by descending &adjvar &randvar;
       run;

  %if &tot_dif < 0 %then %do;       /* if the total is too small */
  %put Adjust Up &tot_dif Times:;
     data &datset;                  /* adjust UPWARD */
       set &datset;
         if _n_ <= (-1* &tot_dif) then do;
            &adjvar = &adjvar + &rndlvl;
            put SEQ= PNAME= BLRID= GENID= "&adjvar =" &adjvar ;
            end;
       run;
  %end;

  %if &tot_dif > 0 %then %do;       /* if the total is too big */
  %put Adjust Down &tot_dif Times:;
     data &datset;                  /* adjust DOWNWARD */
       set &datset;
         if _n_ <= &tot_dif then do;
            &adjvar = &adjvar - &rndlvl;
            put SEQ= PNAME= BLRID= GENID= "&adjvar= " &adjvar;
            end;
      run;
  %end;

%end;

%mend adjtot;
/*************************/
/* END - ADJTOT MACRO      */
/*************************/


/*The following SAS datasets were created first from excel files*/
/*using SAS/ACCESS PC File Format */


proc sort data=nadbmain.nadbv22;
  by SEQ;
run;

proc sort data=nadbmain.sdfv22;
  by SEQ;
run;

DATA nadbmain.V21;
MERGE nadbmain.sdfv22 nadbmain.nadbv22;
   BY SEQ;
   OLDNAMEP = NAMEPCAP;

/* Set Units with Negative Generation to 0 */
   GENER=MAX(GENER,0);

/* Set Up MNONL and YRONL */
   MNONL = BLRMNONL;
   YRONL = BLRYRONL;

if YRONL = 1900 and MNONL = 0 then do;
   MNONL = GENMNONL;
   YRONL = GENYRONL;
```

```
   end;

/* SET UP NAMEPCAP FOR SPECIAL MULTI-HEADER UNITS */
   IF SPECMULT = 1 THEN NAMEPCAP = 26;

/* SET UP BASELINE FOR FORCED OUTAGE PLANTS */

   IF OUTAGEHR >= 2920 THEN DO;
        IF OUTAGEHR >= 26280 THEN BASELINE = BASE8587;
        ELSE BASELINE = 26280/(26280 - OUTAGEHR) * BASE8587;
        END;
   ELSE BASELINE = BASE8587;

   IF YRONL = 1985 THEN BASELINE = 36 / (36 - (MNONL - 1)) * BASE8587;

   IF (OUTAGEHR >= 2920) AND (YRONL = 1985) THEN DO;
        IF OUTAGEHR >= 26280 THEN
           BASELINE = 36 / (36 - (MNONL - 1)) * BASE8587;
        ELSE BASELINE = 26280/(26280 - OUTAGEHR) * 36 / (36 - (MNONL - 1))
                        * BASE8587;
        END;

/* SET THE FOLLOWING VARIABLES UP TO AVOID MISSING VALUES */
FLAG = 0;
FLAG1 = 0;
FLAG2 = 0;
PROHIB = 0;
S405I2 = 0;
CNT_UTIL = 0;
CNT_AUTH = 0;
BONUS = 0;
BONUS125 = 0;
SUMB125 = 0;
TOTAL = 0;
TOTALBON = 0;
PHASEI09 = 0;
PHASEI10 = 0;
S405I1_P = 0;
S405I1_B = 0;
BAS89_09 = 0;
BAS89_10 = 0;
ch1=0;
ch2=0;
choice1=0;
choice2=0;
CHE=0;
CHOICEPA=0;
PERM2010=0;
PERM_11   =0;
PERM_01   =0;
PERM_02   =0;
PERM_03   =0;
PERM_04   =0;
UPERM_05  =0;
RPERM_05  =0;
UPERM_06  =0;
RPERM_06  =0;
PERM_07   =0;
PERM_09   =0;
MUN_PERM  =0;
UPERM107  =0;
RPERM107  =0;
UPERM102  =0;
RPERM102  =0;
FL_40K2   =0;
PERM_ALL=0;
S405I1=0;
S405I1_1=0;
S405I1_F=0;
CHEPA=0;

/* set dummy variable for merging in various data steps */
MERGER = 1;

/* 405(a)(1) -- EPA estimate of SO2RTE (CHANGED 8/7/91) */
IF SO2RTE = 0 AND YRONL <= 1985 THEN DO;
        IF PRIMFUEL = 1 THEN DO;
                IF RY_ER > 0 THEN SO2RTE = RY_ER;
                ELSE IF ANNLIM85 < 99 THEN SO2RTE = ANNLIM85;
                END;
        IF PRIMFUEL = 2 THEN DO;
                IF RY_ER > 0 THEN SO2RTE = RY_ER;
                END;
        END;

RUN;
```

```
/************************************/
/* MAIN BASIC ALLOWANCE CALCULATIONS */
/************************************/

DATA nadbmain.V21;
SET nadbmain.V21;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
```

```
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
```

```
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
3574  /* WA      Kettle Falls    1       1               */
3711  /* WI      Combustion Turbine      **1     1       */
3756  /* WI      Manitowoc       9       7               */
3762  /* WI      NA 7222 **1     1                       */
3770  /* WI      NA 2    **1     1                       */
) then do;
  FLAG1    = 12;
  if SEQ in (
  0392  /* CO      Valmont 11      1                     */
  0393  /* CO      Valmont 11      2                     */
  0394  /* CO      Valmont 11      3                     */
  0395  /* CO      Valmont 11      4                     */
  0396  /* CO      Valmont 12      1                     */
  0397  /* CO      Valmont 12      2                     */
  0398  /* CO      Valmont 12      3                     */
  0399  /* CO      Valmont 12      4                     */
  0400  /* CO      Valmont 13      1                     */
  0401  /* CO      Valmont 13      2                     */
  0402  /* CO      Valmont 13      3                     */
  0403  /* CO      Valmont 13      4                     */
  0412  /* CO      Valmont 22      1                     */
  0413  /* CO      Valmont 22      2                     */
  0414  /* CO      Valmont 22      3                     */
  0415  /* CO      Valmont 22      4                     */
  0416  /* CO      Valmont 23      1                     */
  0417  /* CO      Valmont 23      2                     */
  0418  /* CO      Valmont 23      3                     */
  0419  /* CO      Valmont 23      4                     */
  1283  /* KS      Ripley  **2     2                     */
  1284  /* KS      Ripley  **3     3                     */
  1723  /* MI      Delray  11      14                    */
  1724  /* MI      Delray  11      15                    */
  2044  /* MS      Wright  W4      W1                    */
  2045  /* MS      Wright  W4      W2                    */
  2046  /* MS      Wright  W4      W3                    */
  2047  /* MS      Wright  W4      W4                    */
  2472  /* NY      Rochester 3     1       3             */
  2473  /* NY      Rochester 3     1       6             */
  2474  /* NY      Rochester 3     1       8             */
  2475  /* NY      Rochester 3     1       9             */
  2476  /* NY      Rochester 3     1       10            */
  2477  /* NY      Rochester 3     2       3             */
  2478  /* NY      Rochester 3     2       6             */
  2479  /* NY      Rochester 3     2       8             */
  2480  /* NY      Rochester 3     2       9             */
  2481  /* NY      Rochester 3     2       10            */
  2487  /* NY      Rochester 3     4       3             */
  2488  /* NY      Rochester 3     4       6             */
  2489  /* NY      Rochester 3     4       8             */
  2490  /* NY      Rochester 3     4       9             */
  2491  /* NY      Rochester 3     4       10            */
  3038  /* PA      Richmond        63      9             */
  3039  /* PA      Richmond        64      9             */
  3048  /* PA      Southwark       11      1             */
  3049  /* PA      Southwark       12      1             */
  3050  /* PA      Southwark       21      2             */
  3051  /* PA      Southwark       22      2             */
  3204  /* TX      Concho  2       3                     */
  3205  /* TX      Concho  2       4                     */
  3206  /* TX      Concho  4       3                     */
  3207  /* TX      Concho  4       4                     */
  3208  /* TX      Concho  5       3                     */
  3209  /* TX      Concho  5       4                     */
  3210  /* TX      Concho  6       3                     */
  3211  /* TX      Concho  6       4                     */
  3220  /* TX      Deepwater       DWP1    1             */
  3221  /* TX      Deepwater       DWP1    2             */
  3222  /* TX      Deepwater       DWP1    3             */
  3223  /* TX      Deepwater       DWP1    4             */
  3224  /* TX      Deepwater       DWP1    6             */
  3225  /* TX      Deepwater       DWP2    1             */
  3226  /* TX      Deepwater       DWP2    2             */
  3227  /* TX      Deepwater       DWP2    3             */
  3228  /* TX      Deepwater       DWP2    4             */
  3229  /* TX      Deepwater       DWP2    6             */
  3230  /* TX      Deepwater       DWP3    1             */
  3231  /* TX      Deepwater       DWP3    2             */
  3232  /* TX      Deepwater       DWP3    3             */
  3233  /* TX      Deepwater       DWP3    4             */
  3234  /* TX      Deepwater       DWP3    6             */
  3235  /* TX      Deepwater       DWP4    1             */
  3236  /* TX      Deepwater       DWP4    2             */
  3237  /* TX      Deepwater       DWP4    3             */
  3238  /* TX      Deeepwater      DWP4    4             */
```

```
  3239  /* TX      Deepwater       DWP4    6                */
  3240  /* TX      Deepwater       DWP5    1                */
  3241  /* TX      Deepwater       DWP5    2                */
  3242  /* TX      Deepwater       DWP5    3                */
  3243  /* TX      Deepwater       DWP5    4                */
  3244  /* TX      Deepwater       DWP5    6                */
  3245  /* TX      Deepwater       DWP6    1                */
  3246  /* TX      Deepwater       DWP6    2                */
  3247  /* TX      Deepwater       DWP6    3                */
  3248  /* TX      Deepwater       DWP6    4                */
  3249  /* TX      Deepwater       DWP6    6                */
  ) then do;
    FLAG1    = 12.1;
  end;
  go to hardwire;
end;
/* SELECT;        OLD SELECT LOOP START */

/* 405(b)(1) */
  IF (NAMEPCAP >= 75) AND (SO2RTE >= 1.2) THEN DO;
        PERM_ALL = BASELINE * 1.2 / 2;
        FLAG1 = 1;
        END;

/* 405(c)(1) */
  IF (NAMEPCAP < 75) AND (SO2RTE >= 1.2) AND (UCAPFSST >= 250) THEN DO;
        PERM_ALL = BASELINE * 1.2 / 2;
        FLAG1 = 2;
        END;

/* 405(c)(2) */
   IF ((NAMEPCAP < 75) AND (SO2RTE >= 1.2) AND (UCAPFSST < 250) and
      (NOT (so2categ=2 or so2categ=3 or so2categ=4 or so2categ=9))
      AND (ANNLIM85>=1.2)) THEN DO;
        PERM_ALL = BASELINE * MIN(SO2RTE,ANNLIM85) / 2;
        FLAG1 = 3;
        END;

/* 405(d)(1) */
   IF ((PRIMFUEL = 1) AND (MIN(SO2RTE,ANNLIM85) < 0.6)) THEN DO;
        IF PERM_ALL <= (BASELINE * 1.2 * MIN(0.6,ANNLIM85) / 2) THEN FLAG1 = 5;
        PERM_ALL = MAX(PERM_ALL,(BASELINE * 1.2 * MIN(0.6,ANNLIM85) / 2));
        END;

/* 405(d)(2) */
   IF ((PRIMFUEL = 1) AND (1.2 > MIN(SO2RTE,ANNLIM85) >= 0.6)) OR
      (SO2CATEG > 1 AND SO2CATEG ^= 6 AND ANNLIM85 = 1.2 AND SO2RTE >= 1.2)
      THEN DO;
     IF PERM_ALL <= (BASELINE * 1.2 * MIN(SO2RTE,ANNLIM85) / 2) THEN FLAG1 = 4;
        PERM_ALL = MAX(PERM_ALL,(BASELINE * 1.2 * MIN(SO2RTE,ANNLIM85) /
2));
        END;

/* 405(e) */
   IF ((PRIMFUEL = 2) AND (1.2 > MIN(SO2RTE,ANNLIM85) >= 0.6)) THEN DO;
     IF PERM_ALL <= (BASELINE * 1.2 * MIN(SO2RTE,ANNLIM85) / 2) THEN FLAG1 = 6;
        PERM_ALL = MAX(PERM_ALL,(BASELINE * 1.2 * MIN(SO2RTE,ANNLIM85) /
2));
        END;

/* 405(f)(1) */
  IF ((PRIMFUEL = 2) AND (MIN(SO2RTE,ANNLIM85) < 0.6)) THEN DO;
     IF PERM_ALL <= (BASELINE * 1.2 * MIN(0.6,ANNLIM85) / 2) THEN FLAG1 = 7;
        PERM_ALL = MAX(PERM_ALL,(BASELINE * 1.2 * MIN(0.6,ANNLIM85) / 2));
        END;

/* OTHERWISE;
   END;               OLD SELECT LOOP END */

/* 405(h)(1) */
IF (PRIMFUEL = 2) AND (GAS8089 > 90) THEN DO;
        PERM_ALL = BASELINE * SO2RTE / 2;
        FLAG1 = 8;
        END;

/* 405(g)(1) */
IF (YRONL > 1985) AND ((YRONL < 1990) OR ((YRONL = 1990) AND
                                          (MNONL < 10))) THEN DO;
        PERM_ALL = HT60SHR * 65 / 60 * ANNLIM85 / 2;
        FLAG1 = 9;
        END;

/* 405(g)(3) */
IF ((YRONL > 1990) OR ((YRONL = 1990) AND (MNONL > 9)))
   AND (YRONL <= 1992) THEN DO;
        PERM_ALL = HT60SHR * 65 / 60 * MIN(0.3,FELIM85) / 2;
```

```
        FLAG1 = 10;
        END;

/* 405(g)(4) */
IF YRONL>1992 AND YRONL<1996 THEN DO;
        IF CONSTYR<1991 THEN DO;
             PERM_ALL = HT60SHR * 65 / 60 * MIN(0.3,FELIM85) / 2;
             IF CONSTYR=0 THEN FLAG1=10.3;
             ELSE FLAG1 = 10.1;
             END;
        ELSE DO;
             PERM_ALL = 0;
             FLAG1 = 10.2;
             END;
        END;

/* Post-1995 Units get no allowances */
IF (YRONL > 1995) THEN DO;
        PERM_ALL = 0;
        FLAG1 = 13;
        END;

/* Pre-enactment turbines get no allowances */
*IF ((SO2CATEG=4) OR (SO2CATEG=9)) AND
*   ((YRONL < 1990) OR ((YRONL = 1990) AND MNONL < 12))
*        THEN DO;
*             PERM_ALL = 0;
*             FLAG1 = 14;
*             END;

/* 405(g)(2) -- Table B units */
SELECT;
 WHEN(ORISPL= 602 AND COMPRESS(GENID)='2') DO;   /* BRANDON SHORES */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 8.907 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 8.907 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,8.907);
        FLAG = 0.2;
        END;
 WHEN(ORISPL=6002 AND COMPRESS(GENID)='4') DO;   /* JAMES H MILLER JR */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 9.197 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 9.197 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,9.197);
        FLAG = 0.2;
        END;
 WHEN(ORISPL=7030 AND COMPRESS(GENID)='2') DO;   /* TNP ONE */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 4.000 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 4.000 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,4.000);
        FLAG = 0.2;
        END;
 WHEN(ORISPL=6019 AND COMPRESS(GENID)='ST1') DO; /* W H ZIMMER */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 18.458 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 18.458 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,18.458);
        FLAG = 0.2;
        END;
 WHEN(ORISPL=7097 AND COMPRESS(GENID)='1') DO;   /* J K SPRUCE */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 7.647 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 7.647 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,7.647);
        FLAG = 0.2;
        END;
 WHEN(ORISPL=7213 AND (COMPRESS(GENID)='1' OR COMPRESS(GENID)='2')) DO;
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 2.796 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 2.796 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,2.796);          /* CLOVER */
        FLAG = 0.2;
        END;
 WHEN(ORISPL=6180 AND COMPRESS(GENID)='2') DO;   /* TWIN OAK */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 1.670 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 1.670 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,1.760);
        FLAG = 0.2;
        END;
 WHEN(ORISPL=6180 AND COMPRESS(GENID)='1') DO;   /* TWIN OAK */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 9.158 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 9.158 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,9.158);
```

```
        FLAG = 0.2;
        END;
 WHEN(ORISPL= 130 AND COMPRESS(GENID)='1') DO;   /* CROSS */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 6.401 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 6.401 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,6.401);
        FLAG = 0.2;
        END;
 WHEN(ORISPL= 370 AND COMPRESS(GENID)='1') DO;   /* MALAKOFF */
        IF (FLAG1=10.1 OR FLAG1=10.3) AND PERM_ALL > 1.759 THEN FLAG1 = 11.2;
        ELSE IF PERM_ALL > 1.759 THEN FLAG1 = 11.1;
        ELSE FLAG1 = 11.0;
        PERM_ALL = MAX(PERM_ALL,1.759);
        FLAG = 0.2;
        END;
 OTHERWISE;
END;                                            /* SELECT LOOP */

/* Set missing values to zero */
IF PERM_ALL = . THEN PERM_ALL = 0;

/* Units 25 Mw or smaller get no allowances */
IF ((NAMEPCAP <= 25) AND ((YRONL < 1990) OR ((YRONL = 1990)
     AND (MNONL < 12))))
/* Also Hard Code for Retired Units (epa memo 2/18/93) */
/* IA: RIVERSIDE  6 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='6')
/* IA: RIVERSIDE  7 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='7')
/* IA: RIVERSIDE  8 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='8')
/* Also Hard Code for Retired Units (epa memo 3/1/93) */
/* DE: DELAWARE CITY  592 */
OR (ORISPL=592)
/* NY: HUDSON AVENUE 2496 */
OR (ORISPL=2496)
/* NY: 59TH STREET  ~110  2503 */
OR (ORISPL=2503 AND COMPRESS(BLRID) NE '110')
        THEN DO;
            PERM_ALL = 0;
            FLAG1 = 12;
            END;

/* Hard Code for Retired Units: no allowances, FLAG1=12.0 */
/* IL: R S WALLACE  7  5  859 */
IF (ORISPL=859 and compress(blrid)='7' and compress(genid)='5')
/* IL: R S WALLACE  8  5  859 */
OR (ORISPL=859 and compress(blrid)='8' and compress(genid)='5')
/* KY: CANE RUN  1  1  1363 */
OR (ORISPL=1363 and compress(blrid)='1' and compress(genid)='1')
/* KY: CANE RUN  2  2  1363 */
OR (ORISPL=1363 and compress(blrid)='2' and compress(genid)='2')
/* OH: FRANK M TAIT  4  4  2847 */
OR (ORISPL=2847 and compress(blrid)='4' and compress(genid)='4')
/* OH: FRANK M TAIT  5  5  2847 */
OR (ORISPL=2847 and compress(blrid)='5' and compress(genid)='5')

/* Additional Units */
/* NE: JONES STREET  26  11  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='26' AND COMPRESS(GENID)='11')
/* NE: JONES STREET  27  12  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='27' AND COMPRESS(GENID)='12')
/* NM: RIO GRANDE  4  4  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='4' AND COMPRESS(GENID)='4')
/* NM: RIO GRANDE  5  5  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='5' AND COMPRESS(GENID)='5')
/* TX: KNOX LEE    1  1  3476 */
OR (ORISPL=3476 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  1  1  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  2  2  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* WI: EDGEWATER   2  2  4050 */
OR (ORISPL=4050 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* OH: FRANK M TAIT  7-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-1')
/* OH: FRANK M TAIT  7-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-2')
/* OH: FRANK M TAIT  8-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-1')
/* OH: FRANK M TAIT  8-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-2')
/* Also Hard Code for Retired Units (moved from 12.0 part) */
/* IL: R S WALLACE  6 859 */
OR (ORISPL=859  AND COMPRESS(BLRID)='6')
```

```
/* LA: COUGHLIN  5 1396 */
OR (ORISPL=1396 AND COMPRESS(BLRID)='5')
/* OH: POSTON  4 2844 */
OR (ORISPL=2844 AND COMPRESS(BLRID)='4')

        THEN DO;
            PERM_ALL = 0;
            FLAG1 = 12.1;
            END;

hardwire:;
RUN;
/*****************************************/
/* END -- MAIN BASIC ALLOWANCE CALCULATIONS */
/*****************************************/

/*************************************************************/
/* CHOICE:                                                   */
/* 405(d)(3)(A) and (B) -- Utility-wide choice of baseline or */
/*                         fuel at 60% capacity factor       */
/*        CHANGED TO EPA METHOD 3/24/92                      */
/*        MOVED AFTER MAIN BASIC ALLOWANCE DATA STEP 4/20/92  */
/*************************************************************/

DATA nadbmain.V21;
SET nadbmain.V21;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen              */
0020  /* AL      Future Fossil   **1     1                */
0036  /* AL      McIntosh CAES   **2     2                */
0043  /* AL      McWilliams      **CT1   CT1              */
0044  /* AL      McWilliams      **CT2   CT2              */
0045  /* AL      McWilliams      **CT3   CT3              */
0117  /* AR      NA1-7246        **1     1                */
0160  /* CA      El Centro       2       2                */
0188  /* CA      Harbor Gen Station      **10    10       */
0392  /* CO      Valmont 11      1                        */
0393  /* CO      Valmont 11      2                        */
0394  /* CO      Valmont 11      3                        */
0395  /* CO      Valmont 11      4                        */
0396  /* CO      Valmont 12      1                        */
0397  /* CO      Valmont 12      2                        */
0398  /* CO      Valmont 12      3                        */
0399  /* CO      Valmont 12      4                        */
0400  /* CO      Valmont 13      1                        */
0401  /* CO      Valmont 13      2                        */
0402  /* CO      Valmont 13      3                        */
0403  /* CO      Valmont 13      4                        */
0412  /* CO      Valmont 22      1                        */
0413  /* CO      Valmont 22      2                        */
0414  /* CO      Valmont 22      3                        */
0415  /* CO      Valmont 22      4                        */
0416  /* CO      Valmont 23      1                        */
0417  /* CO      Valmont 23      2                        */
0418  /* CO      Valmont 23      3                        */
0419  /* CO      Valmont 23      4                        */
0442  /* CT      South Meadow    11      5                */
0443  /* CT      South Meadow    11      6                */
0444  /* CT      South Meadow    12      5                */
0445  /* CT      South Meadow    12      6                */
0446  /* CT      South Meadow    13      5                */
0447  /* CT      South Meadow    13      6                */
0541  /* FL      G W Ivey        **22    22               */
0597  /* FL      Lauderdale      PFL4    ST4              */
0598  /* FL      Lauderdale      PFL5    ST5              */
0607  /* FL      Martin  **3ST   3ST                      */
0608  /* FL      Martin  **4ST   4ST                      */
0811  /* IL      Lakeside        GT1     GT1              */
0812  /* IL      Lakeside        GT2     GT2              */
1011  /* IN      NA1-7221        **2     2                */
1017  /* IN      NA1-7228        **4     4                */
1018  /* IN      NA1-7228        **5     5                */
1133  /* IA      NA1-7230        **1     1                */
1283  /* KS      Ripley  **2     2                        */
1284  /* KS      Ripley  **3     3                        */
1351  /* KY      J K Smith       1       1                */
1496  /* LA      R S Nelson      1       1                */
1497  /* LA      R S Nelson      2       2                */
1723  /* MI      Delray  11      14                       */
1724  /* MI      Delray  11      15                       */
1898  /* MN      Future Base     **1     1                */
2044  /* MS      Wright  W4      W1                       */
2045  /* MS      Wright  W4      W2                       */
2046  /* MS      Wright  W4      W3                       */
```

```
2047  /* MS      Wright  W4      W4                          */
2072  /* MO      Combustion Turbine 1    **NA7   NA7         */
2086  /* MO      Empire Energy Center    **3     3           */
2087  /* MO      Empire Energy Center    **4     4           */
2088  /* MO      Empire Energy Center    **NA2   NA2         */
2089  /* MO      Empire Eneyg Center     **NA3   NA3         */
2092  /* MO      Grand Avenue    **7     7                   */
2093  /* MO      Grand Avenue    **9     9                   */
2124  /* MO      Lake Road       **8     8                   */
2200  /* NE      NA1-7019        **NA2   NA2                 */
2217  /* NV      Clark   **9     9                           */
2218  /* NV      Clark   **10    10                          */
2255  /* NJ      Butler  **1     1                           */
2256  /* NJ      Butler  **3     3                           */
2257  /* NJ      Butler  **4     4                           */
2292  /* NJ      NA1-7139        **1     1                   */
2293  /* NJ      NA2-7140        **1     1                   */
2294  /* NJ      NA3-7141        **1     1                   */
2295  /* NJ      NA3-7141        **2     2                   */
2296  /* NJ      NA4-7142        **1     1                   */
2297  /* NJ      NA5-7217        **1     1                   */
2298  /* NJ      NA5-7217        **2     2                   */
2299  /* NJ      NA6-7218        **1     1                   */
2300  /* NJ      NA6-7218        **2     2                   */
2331  /* NM      Escalante       **2     2                   */
2340  /* NM      Maddox  **3     3                           */
2472  /* NY      Rochester 3     1       3                   */
2473  /* NY      Rochester 3     1       6                   */
2474  /* NY      Rochester 3     1       8                   */
2475  /* NY      Rochester 3     1       9                   */
2476  /* NY      Rochester 3     1       10                  */
2477  /* NY      Rochester 3     2       3                   */
2478  /* NY      Rochester 3     2       6                   */
2479  /* NY      Rochester 3     2       8                   */
2480  /* NY      Rochester 3     2       9                   */
2481  /* NY      Rochester 3     2       10                  */
2487  /* NY      Rochester 3     4       3                   */
2488  /* NY      Rochester 3     4       6                   */
2489  /* NY      Rochester 3     4       8                   */
2490  /* NY      Rochester 3     4       9                   */
2491  /* NY      Rochester 3     4       10                  */
2621  /* ND      Dakotas **1     1                           */
2702  /* OH      Dover   **7     7                           */
2919  /* OK      Inola   **1     1                           */
3014  /* PA      Marcus Hook Refinery 1  GEN1                */
3038  /* PA      Richmond        63      9                   */
3039  /* PA      Richmond        64      9                   */
3048  /* PA      Southwark       11      1                   */
3049  /* PA      Southwark       12      1                   */
3050  /* PA      Southwark       21      2                   */
3051  /* PA      Southwark       22      2                   */
3073  /* PA      Trenton Cogen Project   **1     1           */
3107  /* SC      NA2-7107        **GT2   GT2                 */
3108  /* SC      NA3-7108        **GT3   GT3                 */
3125  /* SD      CT      **5     5                           */
3138  /* SD      Mobile  **2     2                           */
3204  /* TX      Concho  2       3                           */
3205  /* TX      Concho  2       4                           */
3206  /* TX      Concho  4       3                           */
3207  /* TX      Concho  4       4                           */
3208  /* TX      Concho  5       3                           */
3209  /* TX      Concho  5       4                           */
3210  /* TX      Concho  6       3                           */
3211  /* TX      Concho  6       4                           */
3220  /* TX      Deepwater       DWP1    1                   */
3221  /* TX      Deepwater       DWP1    2                   */
3222  /* TX      Deepwater       DWP1    3                   */
3223  /* TX      Deepwater       DWP1    4                   */
3224  /* TX      Deepwater       DWP1    6                   */
3225  /* TX      Deepwater       DWP2    1                   */
3226  /* TX      Deepwater       DWP2    2                   */
3227  /* TX      Deepwater       DWP2    3                   */
3228  /* TX      Deepwater       DWP2    4                   */
3229  /* TX      Deepwater       DWP2    6                   */
3230  /* TX      Deepwater       DWP3    1                   */
3231  /* TX      Deepwater       DWP3    2                   */
3232  /* TX      Deepwater       DWP3    3                   */
3233  /* TX      Deepwater       DWP3    4                   */
3234  /* TX      Deepwater       DWP3    6                   */
3235  /* TX      Deepwater       DWP4    1                   */
3236  /* TX      Deepwater       DWP4    2                   */
3237  /* TX      Deepwater       DWP4    3                   */
3238  /* TX      Deeepwater      DWP4    4                   */
3239  /* TX      Deepwater       DWP4    6                   */
3240  /* TX      Deepwater       DWP5    1                   */
3241  /* TX      Deepwater       DWP5    2                   */
```

```
3242  /* TX      Deepwater       DWP5    3                */
3243  /* TX      Deepwater       DWP5    4                */
3244  /* TX      Deepwater       DWP5    6                */
3245  /* TX      Deepwater       DWP6    1                */
3246  /* TX      Deepwater       DWP6    2                */
3247  /* TX      Deepwater       DWP6    3                */
3248  /* TX      Deepwater       DWP6    4                */
3249  /* TX      Deepwater       DWP6    6                */
3268  /* TX      GT98    **1     1                        */
3269  /* TX      GT98    **2     2                        */
3270  /* TX      GT99    **1     1                        */
3271  /* TX      GT99    **2     2                        */
3272  /* TX      GT99    **3     3                        */
3354  /* TX      NA1-7216        **1     1                */
3355  /* TX      NA1-7216        **2     2                */
3438  /* TX      San Miguel      **2     2                */
3463  /* TX      TNP One **3     3                        */
3464  /* TX      TNP One **4     4                        */
3507  /* UT      Bonanza **2     2                        */
3549  /* VA      Chesterfield    **8B    8B               */
3574  /* WA      Kettle Falls    1       1                */
3711  /* WI      Combustion Turbine      **1     1        */
3756  /* WI      Manitowoc       9       7                */
3762  /* WI      NA 7222 **1     1                        */
3770  /* WI      NA 2    **1     1                        */
) then do;
    go to hardwire;
  end;

/* Calculate up comparison variables */

/* 405(d)(3)(A) */
IF (INT(FLAG1) = 5) THEN DO;
               CHOICE1 = HT60SHR * MIN(0.6,ANNLIM85) / 2;
               CHOICE2 = BASELINE * 1.2 * MIN(0.6,ANNLIM85) / 2;
               CHOICEPA = MAX(0,CHOICE1-CHOICE2);
               END;

/* 405(d)(3)(B) */
IF (INT(FLAG1) = 4) THEN DO;
               CHOICE1 = HT60SHR * MIN(SO2RTE,ANNLIM85) / 2;
               CHOICE2 = BASELINE * 1.2 * MIN(SO2RTE,ANNLIM85) / 2;
               CHOICEPA = MAX(0,CHOICE1-CHOICE2);
               END;

/* Bonus only for Existing, 1985 and earlier plants */
IF (YRONL > 1985) OR (NAMEPCAP <= 25) THEN DO;
        CHOICE1 = 0;
        CHOICE2 = 0;
        CHOICEPA = 0;
        END;

hardwire:;
RUN;

/* SORT BY UTILITY */
PROC SORT DATA=nadbmain.V21;
        BY UCODE;
RUN;

/* SUM EACH CHOICE BY UTILITY */
PROC SUMMARY DATA=nadbmain.V21;
        BY UCODE;
        VAR CHOICE1 CHOICE2 CHOICEPA;
        OUTPUT OUT=CHOICE(KEEP=UCODE CH1 CH2 CHE) SUM=CH1 CH2 CHE;
RUN;


/* COMBINE UTILITY-WIDE CHOICE WITH MAIN FILE */
DATA nadbmain.V21;
MERGE nadbmain.V21(drop=ch1 ch2 CHE) CHOICE;
        BY UCODE;
        CHOICE = 0;
        CHEPA = 0;
        IF (INT(FLAG1) = 4) OR (INT(FLAG1) = 5) THEN DO;
                IF CH1 > CH2 THEN CHOICE = 1;
                ELSE CHOICE = 2;

     /* EPA METHOD */
                IF CHE > 0 THEN CHEPA = 1; ELSE CHEPA = 2;
                END;

/* HARD-WIRE UTILITY ELECTIONS FOR "CHEPA" VARIABLE */
           if UCODE= 3994  /* COLORADO-UTE ELECTRIC ASSN INC */
           OR UCODE=14063  /* OKLAHOMA GAS & ELECTRIC CO */
           OR UCODE=20856  /* WISCONSIN POWER AND LIGHT */
```

```
           OR SEQ=359      /* COLORADO HAYDEN H1 UNIT */
           OR SEQ=360      /* COLORADO HAYDEN H2 UNIT */
           THEN CHEPA = 2;
RUN;

/*****************/
/* END -- CHOICE */
/*****************/

/*******************************/
/* BONUS ALLOWANCE CALCULATIONS */
/*******************************/

DATA nadbmain.V21;
SET nadbmain.V21;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen              */
0020  /* AL      Future Fossil   **1     1                */
0036  /* AL      McIntosh CAES   **2     2                */
0043  /* AL      McWilliams      **CT1   CT1              */
0044  /* AL      McWilliams      **CT2   CT2              */
0045  /* AL      McWilliams      **CT3   CT3              */
0117  /* AR      NA1-7246        **1     1                */
0160  /* CA      El Centro       2       2                */
0188  /* CA      Harbor Gen Station      **10    10       */
0392  /* CO      Valmont 11      1                        */
0393  /* CO      Valmont 11      2                        */
0394  /* CO      Valmont 11      3                        */
0395  /* CO      Valmont 11      4                        */
0396  /* CO      Valmont 12      1                        */
0397  /* CO      Valmont 12      2                        */
0398  /* CO      Valmont 12      3                        */
0399  /* CO      Valmont 12      4                        */
0400  /* CO      Valmont 13      1                        */
0401  /* CO      Valmont 13      2                        */
0402  /* CO      Valmont 13      3                        */
0403  /* CO      Valmont 13      4                        */
0412  /* CO      Valmont 22      1                        */
0413  /* CO      Valmont 22      2                        */
0414  /* CO      Valmont 22      3                        */
0415  /* CO      Valmont 22      4                        */
0416  /* CO      Valmont 23      1                        */
0417  /* CO      Valmont 23      2                        */
0418  /* CO      Valmont 23      3                        */
0419  /* CO      Valmont 23      4                        */
0442  /* CT      South Meadow    11      5                */
0443  /* CT      South Meadow    11      6                */
0444  /* CT      South Meadow    12      5                */
0445  /* CT      South Meadow    12      6                */
0446  /* CT      South Meadow    13      5                */
0447  /* CT      South Meadow    13      6                */
0541  /* FL      G W Ivey        **22    22               */
0597  /* FL      Lauderdale      PFL4    ST4              */
0598  /* FL      Lauderdale      PFL5    ST5              */
0607  /* FL      Martin  **3ST   3ST                      */
0608  /* FL      Martin  **4ST   4ST                      */
0811  /* IL      Lakeside        GT1     GT1              */
0812  /* IL      Lakeside        GT2     GT2              */
1011  /* IN      NA1-7221        **2     2                */
1017  /* IN      NA1-7228        **4     4                */
1018  /* IN      NA1-7228        **5     5                */
1133  /* IA      NA1-7230        **1     1                */
1283  /* KS      Ripley  **2     2                        */
1284  /* KS      Ripley  **3     3                        */
1351  /* KY      J K Smith       1       1                */
1496  /* LA      R S Nelson      1       1                */
1497  /* LA      R S Nelson      2       2                */
1723  /* MI      Delray  11      14                       */
1724  /* MI      Delray  11      15                       */
1898  /* MN      Future Base     **1     1                */
2044  /* MS      Wright  W4      W1                       */
2045  /* MS      Wright  W4      W2                       */
2046  /* MS      Wright  W4      W3                       */
2047  /* MS      Wright  W4      W4                       */
2072  /* MO      Combustion Turbine 1    **NA7   NA7      */
2086  /* MO      Empire Energy Center    **3     3        */
2087  /* MO      Empire Energy Center    **4     4        */
2088  /* MO      Empire Energy Center    **NA2   NA2      */
2089  /* MO      Empire Eneyg Center     **NA3   NA3      */
2092  /* MO      Grand Avenue    **7     7                */
2093  /* MO      Grand Avenue    **9     9                */
2124  /* MO      Lake Road       **8     8                */
2200  /* NE      NA1-7019        **NA2   NA2              */
2217  /* NV      Clark   **9     9                        */
```

```
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
```

```
3271  /* TX      GT99    **2     2                          */
3272  /* TX      GT99    **3     3                          */
3354  /* TX      NA1-7216        **1     1                  */
3355  /* TX      NA1-7216        **2     2                  */
3438  /* TX      San Miguel      **2     2                  */
3463  /* TX      TNP One **3     3                          */
3464  /* TX      TNP One **4     4                          */
3507  /* UT      Bonanza **2     2                          */
3549  /* VA      Chesterfield    **8B    8B                 */
3574  /* WA      Kettle Falls    1       1                  */
3711  /* WI      Combustion Turbine      **1     1          */
3756  /* WI      Manitowoc       9       7                  */
3762  /* WI      NA 7222 **1     1                          */
3770  /* WI      NA 2    **1     1                          */
) then do;
    go to hardwire;
  end;

/* 405(h)(2) and 405(h)(3) */
 IF (PRIMFUEL = 2) AND (GAS8089 > 90) THEN DO;
        BONUS = BASELINE * 0.05 / 2;
        PERM2010 = BASELINE * 0.05 /2;
        END;

/* 405(b)(2) and (c)(4) */

/* 405(b)(2) */
IF (INT(FLAG1)=1) AND (SO2RTE < 2.5) THEN DO;
               BONUS = (MAX(BASELINE,(HT60SHR+BASELINE)/2) * 1.2 / 2)
                        - PERM_ALL;
               FLAG1 = 1.1;
               END;



/* 405(c)(4) */
IF (INT(FLAG1)=2) AND (SO2RTE < 2.5) THEN DO;
               BONUS = (MAX(BASELINE,(HT60SHR+BASELINE)/2) * 1.2 / 2)
                        - PERM_ALL;
               FLAG1 = 2.1;
               END;

/* 405(d)(3)(A) -- Select utility-wide choice */
IF (INT(FLAG1) = 5) THEN DO;

/* EPA WAY */
        IF CHEPA = 1 THEN DO;
              BONUS = MAX(((HT60SHR * MIN(0.6,ANNLIM85) / 2) - PERM_ALL),0);
              FLAG1 = 5.1;
              END;
        IF CHEPA = 2 THEN DO;
               BONUS = 0;
               FLAG1 = 5.2;
               END;
/* END EPA WAY */
        END;

/* 405(d)(3)(B) -- Select utility-wide choice */
IF (INT(FLAG1) = 4) THEN DO;

/* EPA WAY */
        IF CHEPA = 1 THEN DO;
              BONUS = MAX(((HT60SHR * MIN(SO2RTE,ANNLIM85) / 2) - PERM_ALL),0);
              FLAG1 = 4.1;
              END;
        IF CHEPA = 2 THEN DO;
               BONUS = 0;
               FLAG1 = 4.2;
               END;
/* END EPA WAY */
        END;


/* Post 1985 units get no Bonus Allowances */
IF YRONL > 1985 THEN BONUS = 0;

/* 405(d)(4) -- Choice for 1981-85 NSPS Units */
IF (((PERM_ALL + BONUS) < (HT60SHR * 65 / 60 * ANNLIM85 / 2))
        AND (PRIMFUEL = 1) AND
        ((MIN(SO2RTE,ANNLIM85) < 1.2) or (SO2RTE>1.2 and ANNLIM85=1.2))
        AND (1986 > YRONL > 1980) AND (SO2CATEG >= 2) AND (SO2CATEG^=6))

/* FORCE THE CHOICES FOR THE FOLLOWING UNITS PER UTILITY ELECTIONS
*/
/* COMMENTED OUT 1/8/92 */
        /* WHITE BLUFF 2 2, ARKANSAS POWER & LIGHT CO (AR) */
```

```
/*      or (ORISPL=6009 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')  */

        /* ANTELOPE VALLEY B1 1, BASIN ELECTRIC POWER COOP (ND) */
/*      or (ORISPL=6469 AND COMPRESS(BLRID)='B1' AND COMPRESS(GENID)='1') */

            THEN DO;
                PERM_11 = (HT60SHR * 65 / 60 * ANNLIM85 / 2) - PERM_ALL;
                PERM_ALL = HT60SHR * 65 / 60 * ANNLIM85 / 2;
                BONUS = 0;
                FLAG = -9;
                FLAG2 = FLAG2 + .11;
                CHOICE1 = 0;
                CHOICE2 = 0;
                CHOICEPA = 0;
                CHOICE = 0;
                CHEPA = 0;
                IF FLAG1 = 4.1 THEN FLAG1 = 4.0;
                IF FLAG1 = 4.2 THEN FLAG1 = 4.0;
                IF FLAG1 = 5.1 THEN FLAG1 = 5.0;
                IF FLAG1 = 5.2 THEN FLAG1 = 5.0;
                END;
hardwire:;
RUN;

/* Sum each choice by utility, reflecting choices made under 405(d)(4) */
PROC SUMMARY DATA=nadbmain.V21;
        BY UCODE;
        VAR CHOICE1 CHOICE2 CHOICEPA;
        OUTPUT OUT=CHOICE2(KEEP=UCODE CH1 CH2 CHE) SUM=CH1 CH2 CHE;
RUN;

/* COMBINE UTILITY-WIDE CHOICE WITH MAIN FILE */
DATA nadbmain.V21;
MERGE nadbmain.V21(drop=ch1 ch2 CHE) CHOICE2;
        BY UCODE;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
```

```
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
```

```
3233  /* TX      Deepwater       DWP3    4                */
3234  /* TX      Deepwater       DWP3    6                */
3235  /* TX      Deepwater       DWP4    1                */
3236  /* TX      Deepwater       DWP4    2                */
3237  /* TX      Deepwater       DWP4    3                */
3238  /* TX      Deeepwater      DWP4    4                */
3239  /* TX      Deepwater       DWP4    6                */
3240  /* TX      Deepwater       DWP5    1                */
3241  /* TX      Deepwater       DWP5    2                */
3242  /* TX      Deepwater       DWP5    3                */
3243  /* TX      Deepwater       DWP5    4                */
3244  /* TX      Deepwater       DWP5    6                */
3245  /* TX      Deepwater       DWP6    1                */
3246  /* TX      Deepwater       DWP6    2                */
3247  /* TX      Deepwater       DWP6    3                */
3248  /* TX      Deepwater       DWP6    4                */
3249  /* TX      Deepwater       DWP6    6                */
3268  /* TX      GT98    **1     1                        */
3269  /* TX      GT98    **2     2                        */
3270  /* TX      GT99    **1     1                        */
3271  /* TX      GT99    **2     2                        */
3272  /* TX      GT99    **3     3                        */
3354  /* TX      NA1-7216        **1     1                */
3355  /* TX      NA1-7216        **2     2                */
3438  /* TX      San Miguel      **2     2                */
3463  /* TX      TNP One **3     3                        */
3464  /* TX      TNP One **4     4                        */
3507  /* UT      Bonanza **2     2                        */
3549  /* VA      Chesterfield    **8B    8B               */
3574  /* WA      Kettle Falls    1       1                */
3711  /* WI      Combustion Turbine      **1     1        */
3756  /* WI      Manitowoc       9       7                */
3762  /* WI      NA 7222 **1     1                        */
3770  /* WI      NA 2    **1     1                        */
) then do;
    go to hardwire;
  end;

        IF ((INT(FLAG1) = 4) OR (INT(FLAG1) = 5)) AND (FLAG NE -9) THEN DO;
             IF CH1 > CH2 THEN CHOICE = 1;
             ELSE CHOICE = 2;

             /* EPA METHOD */
             IF CHE > 0 THEN CHEPA = 1; ELSE CHEPA = 2;

             /* HARD-WIRE UTILITY ELECTIONS FOR "CHEPA" VARIABLE */
               if UCODE= 3994  /* COLORADO-UTE ELECTRIC ASSN INC */
               OR UCODE=14063  /* OKLAHOMA GAS & ELECTRIC CO */
               OR UCODE=20856  /* WISCONSIN POWER AND LIGHT */
               OR SEQ=359      /* COLORADO HAYDEN H1 UNIT */
               OR SEQ=360      /* COLORADO HAYDEN H2 UNIT */
               THEN CHEPA = 2;
             END;

        ELSE DO;
               CHOICE = 0;
               CHEPA = 0;
               END;

/* NOW RE-DO THE CHOICE TO REFLECT THE NEW VALUES FOR 'CHOICE' */

/* 405(d)(3)(A) */
 IF (INT(FLAG1) = 5) THEN DO;

/* EPA WAY */
        IF CHEPA = 1 THEN DO;
              BONUS = MAX(((HT60SHR * MIN(0.6,ANNLIM85) / 2) - PERM_ALL),0);
              FLAG1 = 5.1;
              END;
        IF CHEPA = 2 THEN DO;
               BONUS = 0;
               FLAG1 = 5.2;
               END;
/* END EPA WAY */

        END;

/* 405(d)(3)(B) */
IF (INT(FLAG1) = 4) THEN DO;

/* EPA WAY */
        IF CHEPA = 1 THEN DO;
              BONUS = MAX(((HT60SHR * MIN(SO2RTE,ANNLIM85) / 2) - PERM_ALL),0);
              FLAG1 = 4.1;
              END;
        IF CHEPA = 2 THEN DO;
```

```
                BONUS = 0;
                FLAG1 = 4.2;
                END;
/* END EPA WAY */

        END;


/* Pre-enactment units 25 Mw or smaller get no bonus allowances */
IF (NAMEPCAP <= 25) AND ((YRONL < 1990) OR ((YRONL = 1990) AND
                         (MNONL < 12))) THEN BONUS = 0;

/* Hard Code for Retired Units: no BONUS allowances */
/* IL: R S WALLACE  7  5  859 */
IF (ORISPL=859 and compress(blrid)='7' and compress(genid)='5')
/* IL: R S WALLACE  8  5  859 */
OR (ORISPL=859 and compress(blrid)='8' and compress(genid)='5')
/* KY: CANE RUN  1  1  1363 */
OR (ORISPL=1363 and compress(blrid)='1' and compress(genid)='1')
/* KY: CANE RUN  2  2  1363 */
OR (ORISPL=1363 and compress(blrid)='2' and compress(genid)='2')
/* OH: FRANK M TAIT  4  4  2847 */
OR (ORISPL=2847 and compress(blrid)='4' and compress(genid)='4')
/* OH: FRANK M TAIT  5  5  2847 */
OR (ORISPL=2847 and compress(blrid)='5' and compress(genid)='5')

/* Additional Units */
/* NE: JONES STREET  26  11  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='26' AND COMPRESS(GENID)='11')
/* NE: JONES STREET  27  12  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='27' AND COMPRESS(GENID)='12')
/* NM: RIO GRANDE  4  4  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='4' AND COMPRESS(GENID)='4')
/* NM: RIO GRANDE  5  5  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='5' AND COMPRESS(GENID)='5')
/* TX: KNOX LEE    1  1  3476 */
OR (ORISPL=3476 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  1  1  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  2  2  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* WI: EDGEWATER   2  2  4050 */
OR (ORISPL=4050 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* OH: FRANK M TAIT  7-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-1')
/* OH: FRANK M TAIT  7-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-2')
/* OH: FRANK M TAIT  8-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-1')
/* OH: FRANK M TAIT  8-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-2')
/* IA: RIVERSIDE  6 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='6')
/* IA: RIVERSIDE  7 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='7')
/* IA: RIVERSIDE  8 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='8')
/* Also Hard Code for Retired Units (epa memo 2/24/93) */
/* IL: R S WALLACE  6 859 */
OR (ORISPL=859  AND COMPRESS(BLRID)='6')
/* LA: COUGHLIN  5 1396 */
OR (ORISPL=1396 AND COMPRESS(BLRID)='5')
/* OH: POSTON  4 2844 */
OR (ORISPL=2844 AND COMPRESS(BLRID)='4')
/* Also Hard Code for Retired Units (epa memo 3/1/93) */
/* DE: DELAWARE CITY  592 */
OR (ORISPL=592)
/* NY: HUDSON AVENUE 2496 */
OR (ORISPL=2496)
/* NY: 59TH STREET  ~110  2503 */
OR (ORISPL=2503 AND COMPRESS(BLRID) NE '110')

        THEN BONUS = 0;

hardwire:;

RUN;
/*************************************/
/* END -- Bonus Allowance Calculations */
/*************************************/

/*****************************************************************/
/* 405(i)(1) -- Allowance Calculations for High Growth State(s) */
/*****************************************************************/

DATA nadbmain.V21;
```

```
SET nadbmain.V21;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
```

```
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
3574  /* WA      Kettle Falls    1       1               */
3711  /* WI      Combustion Turbine      **1     1       */
3756  /* WI      Manitowoc       9       7               */
3762  /* WI      NA 7222 **1     1                       */
3770  /* WI      NA 2    **1     1                       */
```

```
) then do;
    go to hardwire;
  end;

/*405(i)(1)*/
IF (SPOP8088 > 25) AND (STCAP88 > 30000) THEN DO;

/* SET INITIAL VALUE TO ZERO */
S405I1 = 0;

/* Adjust Baseline */
    IF MXBS8089 >= BASELINE THEN S405I1_B = MXBS8089;
    ELSE S405I1_B = BASELINE;

/* Calculate Extra Allowances based on Regular Perm Provision Choice */

/* 405(b)(1) */
     IF (INT(FLAG1) = 1) THEN S405I1 = S405I1_B * 1.2 / 2;

/* 405(c)(1) and 405(c)(2) */
     IF (INT(FLAG1) = 2) THEN S405I1 = S405I1_B * 1.2 / 2;
     IF (INT(FLAG1) = 3) THEN S405I1 = S405I1_B * MIN(SO2RTE,ANNLIM85) / 2;

/* 405(d)(2) and 405(e) */
     IF ((INT(FLAG1) = 4) OR (INT(FLAG1) = 6)) THEN
            S405I1 = S405I1_B * 1.2 * MIN(SO2RTE,ANNLIM85) / 2;

/* 405(d)(1) and 405(f)(1) */
     IF ((INT(FLAG1) = 5) OR (INT(FLAG1) = 7)) THEN
            S405I1 = S405I1_B * 1.2 * MIN(0.6,ANNLIM85) / 2;

/* 405(g)(1) */
    IF (INT(FLAG1) = 9)  THEN
       S405I1 = MAX(S405I1_B,HT60SHR * 65 / 60) * ANNLIM85 / 2;

/* 405(g)(3) */
IF FLAG1 = 10.0 THEN
       S405I1 = MAX(S405I1_B,HT60SHR * 65 / 60) * MIN(0.3,FELIM85) / 2;

/* 405(g)(4) */
IF FLAG1 = 10.1 OR FLAG1 = 10.3 THEN
       S405I1 = MAX(S405I1_B,HT60SHR * 65 / 60) * MIN(0.3,FELIM85) / 2;
IF FLAG1 = 10.2 THEN S405I1 = 0;

/* 405(h)(1) */
    IF (INT(FLAG1) = 8) THEN S405I1 = S405I1_B * SO2RTE / 2;

/* Adjustment for 2010 and later switch of 405(h)(2) to basic */
    IF (PRIMFUEL = 2) AND (GAS8089 > 90) THEN
       S405I1_1 = (S405I1_B * 0.05 /2) - PERM2010; /* INCREMENT only */
    ELSE S405I1_1 = 0;

/* 405(d)(4) -- 1981-85 NSPS Units get choice*/
    IF ((S405I1 + BONUS) < (HT60SHR * 65 /60 * ANNLIM85 / 2)) AND
        (PRIMFUEL = 1) AND
        ((MIN(SO2RTE,ANNLIM85) < 1.2) or (SO2RTE>1.2 and ANNLIM85=1.2))
        AND (1986 > YRONL > 1980) AND (SO2CATEG >= 2) AND (SO2CATEG^=6)
       THEN DO;
        IF INT(FLAG1) = 5 THEN
        PERM_11 = (HT60SHR * 65 / 60 * ANNLIM85 /2)
                - (BASELINE * 1.2 * MIN(0.6,ANNLIM85) / 2);
        ELSE
        PERM_11 = (HT60SHR * 65 / 60 * ANNLIM85 /2)
                - (BASELINE * 1.2 * MIN(SO2RTE,ANNLIM85) / 2);
        PERM_ALL = HT60SHR * 65 / 60 * ANNLIM85 / 2;
        BONUS = 0;
        S405I1 = 0;
        S405I1_1 = 0;
        FLAG2 = .11;
        IF FLAG1 = 4.1 THEN FLAG1 = 4.0;
        IF FLAG1 = 4.2 THEN FLAG1 = 4.0;
        IF FLAG1 = 5.1 THEN FLAG1 = 5.0;
        IF FLAG1 = 5.2 THEN FLAG1 = 5.0;
        END;

/* other units get difference between regular and 405(i)(1) allowances */
    ELSE DO;
      S405I1 = S405I1 - PERM_ALL;
/* total for 2010+ is sum of INCREMENTs for 2000-09 and 2010+ */
      S405I1_1 = S405I1 + S405I1_1;
      END;
    FLAG2 = FLAG2 + 1;
END;                                              /* IF LOOP END */

ELSE do;
  S405I1 = 0;
```

```
  S405I1_1 = 0;
  end;

/* set small pre-enactment units to zero */
IF (NAMEPCAP <= 25) AND ((YRONL < 1990) OR ((YRONL = 1990) AND
                         (MNONL < 12))) THEN DO;
                          S405I1 = 0;
                          S405I1_1 = 0;
                          END;

/* Hard Code for Retired Units: no allowances */
/* IL: R S WALLACE  7  5  859 */
IF (ORISPL=859 and compress(blrid)='7' and compress(genid)='5')
/* IL: R S WALLACE  8  5  859 */
OR (ORISPL=859 and compress(blrid)='8' and compress(genid)='5')
/* KY: CANE RUN  1  1  1363 */
OR (ORISPL=1363 and compress(blrid)='1' and compress(genid)='1')
/* KY: CANE RUN  2  2  1363 */
OR (ORISPL=1363 and compress(blrid)='2' and compress(genid)='2')
/* OH: FRANK M TAIT  4  4  2847 */
OR (ORISPL=2847 and compress(blrid)='4' and compress(genid)='4')
/* OH: FRANK M TAIT  5  5  2847 */
OR (ORISPL=2847 and compress(blrid)='5' and compress(genid)='5')

/* Additional Units */
/* NE: JONES STREET  26  11  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='26' AND COMPRESS(GENID)='11')
/* NE: JONES STREET  27  12  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='27' AND COMPRESS(GENID)='12')
/* NM: RIO GRANDE  4  4  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='4' AND COMPRESS(GENID)='4')
/* NM: RIO GRANDE  5  5  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='5' AND COMPRESS(GENID)='5')
/* TX: KNOX LEE    1  1  3476 */
OR (ORISPL=3476 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  1  1  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  2  2  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* WI: EDGEWATER   2  2  4050 */
OR (ORISPL=4050 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* OH: FRANK M TAIT  7-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-1')
/* OH: FRANK M TAIT  7-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-2')
/* OH: FRANK M TAIT  8-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-1')
/* OH: FRANK M TAIT  8-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-2')
/* IA: RIVERSIDE  6 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='6')
/* IA: RIVERSIDE  7 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='7')
/* IA: RIVERSIDE  8 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='8')
/* Also Hard Code for Retired Units (epa memo 2/24/93) */
/* IL: R S WALLACE  6 859 */
OR (ORISPL=859  AND COMPRESS(BLRID)='6')
/* LA: COUGHLIN  5 1396 */
OR (ORISPL=1396 AND COMPRESS(BLRID)='5')
/* OH: POSTON  4 2844 */
OR (ORISPL=2844 AND COMPRESS(BLRID)='4')
/* Also Hard Code for Retired Units (epa memo 3/1/93) */
/* DE: DELAWARE CITY  592 */
OR (ORISPL=592)
/* NY: HUDSON AVENUE 2496 */
OR (ORISPL=2496)
/* NY: 59TH STREET  ~110  2503 */
OR (ORISPL=2503 AND COMPRESS(BLRID) NE '110')

        THEN DO;
        S405I1 = 0;
        S405I1_1 = 0;
        END;

hardwire:;

FORMAT S405I1 S405I1_1 12.6;
RUN;
/* rachet to 40,000 occurs later */

/*******************************/
/* END -- High Growth State(s) */
/*******************************/
```

```
/*******************************************/
/* SPECIAL PROVISIONS                      */
/*******************************************/

DATA nadbmain.V21;
SET nadbmain.V21;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
```

```
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
```

```
3574  /* WA      Kettle Falls    1       1                */
3711  /* WI      Combustion Turbine      **1     1        */
3756  /* WI      Manitowoc       9       7                */
3762  /* WI      NA 7222 **1     1                        */
3770  /* WI      NA 2    **1     1                        */
) then do;
   go to hardwire;
  end;

/* 405(c)(5) */
IF (UPCTSCRB >= 20) AND (BIGUHARD = 1) AND (SMCOPCT > 10) AND
   (25 < NAMEPCAP < 75) AND (SO2RTE >= 1.2) THEN DO;
        PERM_01 = (BASELINE * 2.5 / 2) - PERM_ALL;
        PERM_ALL = BASELINE * 2.5 / 2;
        PERM2010 = BASELINE * -1.3 / 2;
        BONUS = 0;
        FLAG2 = FLAG2 + 0.01;
        END;

/* 405(b)(3) */
IF (ATTAIN = 1) AND (LIGNTPCT > 90) AND (NAMEPCAP > 25) AND
   (SO2RTE >= 1.2) THEN DO;
         PERM_02 = (BASELINE * MIN(SO2RTE,ANNLIM85) / 2) - PERM_ALL;
        PERM_ALL = BASELINE * MIN(SO2RTE,ANNLIM85) / 2;
        BONUS = 0;
        FLAG2 = FLAG2 + 0.02;
        END;

/* 405(d)(5) */
IF CCTGRNT = 1 THEN DO;
        PERM_03 = (BASELINE * 1.2 / 2) - PERM_ALL;
        PERM_ALL = BASELINE * 1.2 / 2;
        BONUS = 0;
        FLAG2 = FLAG2 + 0.03;
        IF (SPOP8088 > 25) AND (STCAP88 > 30000) THEN
               S405I1 = (S405I1_B - BASELINE) * 1.2 / 2;
               S405I1_1 = S405I1;
             FL_40K2 = (S405I1_B - BASELINE) * 1.2 / 2;
        END;

/* 405(g)(5) */
IF (G2C8587 = 1) AND (PROPIFUA = 1) THEN DO;
         PERM_04 = (HT60SHR * 65 / 60 * MIN(SO2LIM87,1.2) / 2) - PERM_ALL;
        PERM_ALL = HT60SHR * 65 / 60 * MIN(SO2LIM87,1.2) / 2;
        BONUS = 0;
        FLAG2 = FLAG2 + 0.04;
        END;

hardwire:;

RUN;
/*****************************/
/* END -- Special Provisions */
/*****************************/

/*********************************/
/* Additional Special Provisions */
/*********************************/

DATA S405I2(KEEP=SEQ MERGER S405I2 UPERM_05)
     PROHIB(KEEP=SEQ MERGER PROHIB UPERM_06)
     CNT_UTIL(KEEP=SEQ UCODE CNT_UTIL UPERM107)
     CNT_AUTH(KEEP=SEQ UCODE CNT_AUTH UPERM102);
SET nadbmain.V21;

/* skip units provided identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen              */
0020  /* AL      Future Fossil   **1     1                */
0036  /* AL      McIntosh CAES   **2     2                */
0043  /* AL      McWilliams      **CT1   CT1              */
0044  /* AL      McWilliams      **CT2   CT2              */
0045  /* AL      McWilliams      **CT3   CT3              */
0117  /* AR      NA1-7246        **1     1                */
0160  /* CA      El Centro       2       2                */
0188  /* CA      Harbor Gen Station      **10    10       */
0392  /* CO      Valmont 11      1                        */
0393  /* CO      Valmont 11      2                        */
0394  /* CO      Valmont 11      3                        */
0395  /* CO      Valmont 11      4                        */
0396  /* CO      Valmont 12      1                        */
0397  /* CO      Valmont 12      2                        */
0398  /* CO      Valmont 12      3                        */
0399  /* CO      Valmont 12      4                        */
0400  /* CO      Valmont 13      1                        */
0401  /* CO      Valmont 13      2                        */
```

```
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
```

```
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
3574  /* WA      Kettle Falls    1       1               */
3711  /* WI      Combustion Turbine      **1     1       */
3756  /* WI      Manitowoc       9       7               */
3762  /* WI      NA 7222 **1     1                       */
3770  /* WI      NA 2    **1     1                       */
) then do;
   go to hardwire;
  end;

/* 405(b)(4) */
IF (STCAP88 > 30000) AND (PROHIB_O = 1) AND (O2C8085 = 1) AND
   (NAMEPCAP >= 75) AND (SO2RTE >= 1.2) AND
   (PERM_ALL < (HT60SHR * 65 / 60 * MIN(SO2RTE,ANNLIM85) / 2)) THEN DO;
        PROHIB = (HT60SHR * 65 / 60 * MIN(ANNLIM85,SO2RTE) / 2) - PERM_ALL;
      UPERM_06 = (HT60SHR * 65 / 60 * MIN(ANNLIM85,SO2RTE) / 2) - PERM_ALL;
        OUTPUT PROHIB;
        END;

/* 405(i)(2) */
IF  ((SO2RTE80^=0) OR (SO2RTE90^=0) OR (SO2LIM80^=0) OR (SO2LIM90^=0))
    and YRONL>1969  and (CMIN80^=0) and (SO22000<1.2) and
        (SO2SYS80^=0) THEN DO;
     IF (((SO2RTE80 <= SO2LIM80) AND ((SO2RTE90 / SO2RTE80) <= 0.5)) OR
     ((SO2RTE80 > SO2LIM80) AND ((SO2LIM90 / SO2LIM80) <= 0.5))) AND
     (NAMEPCAP >= 75) AND (MIN(ANNLIM85,SO2RTE) >= 1.2) and
      ((CMIN90/CMIN80)>1.2) AND ((SO2SYS88/SO2SYS80)<=0.6) THEN DO;
        PERM_ALL = MAX(PERM_ALL,(MXBS8089 * 1.2 / 2));
        S405I2 = PERM_ALL - (BASELINE * 1.2 / 2);
```

```
      UPERM_05 = PERM_ALL - (BASELINE * 1.2 / 2); /*INCREMENT*/
        OUTPUT S405I2;
        END;
     END;

/* 405(f)(2) */
IF (CONTUTIL = 1) AND (NAMEPCAP > 25) AND (FLAG1 NE 12.1) THEN DO;
        CNT_UTIL = PERM_ALL;
        UPERM107 = PERM_ALL; /* TOTAL, NOT INCREMENT */
        OUTPUT CNT_UTIL;
        END;

IF (CONTAUTH = 1) AND (NAMEPCAP > 25) AND (FLAG1 NE 12.1) THEN DO;
        CNT_AUTH = PERM_ALL;
        UPERM102 = PERM_ALL;  /* TOTAL, NOT INCREMENT */
        OUTPUT CNT_AUTH;
        END;
hardwire:;

RUN;

/* Calculate totals for 405(b)(4), 405(i)(2), and 405(f)(2) */
PROC SUMMARY DATA=S405I2;
    VAR S405I2;
    ID MERGER;
    OUTPUT OUT=S405I2S(KEEP=MERGER S405I2) SUM=S405I2;
RUN;

PROC SUMMARY DATA=PROHIB;
    VAR PROHIB;
    ID MERGER;
    OUTPUT OUT=PROHIBS(KEEP=MERGER PROHIB) SUM=PROHIB;
RUN;

PROC SUMMARY DATA=CNT_UTIL;
    VAR CNT_UTIL;
    ID UCODE;
    OUTPUT OUT=CNT_UTSM(KEEP=UCODE CNT_UTIL) SUM=CNT_UTIL;
RUN;

PROC SUMMARY DATA=CNT_AUTH;
    VAR CNT_AUTH;
    ID UCODE;
    OUTPUT OUT=CNT_AUSM(KEEP=UCODE CNT_AUTH) SUM=CNT_AUTH;
RUN;

/* SORT ALL DATASETS BY SEQ FOR MERGING */
PROC SORT DATA=nadbmain.V21;
   BY SEQ;
   RUN;

PROC SORT DATA=S405I2(KEEP=SEQ UPERM_05);
   BY SEQ;
   RUN;

PROC SORT DATA=PROHIB(KEEP=SEQ UPERM_06);
   BY SEQ;
   RUN;

PROC SORT DATA=CNT_UTIL(KEEP=SEQ UPERM107);
   BY SEQ;
   RUN;

PROC SORT DATA=CNT_AUTH(KEEP=SEQ UPERM102);
   BY SEQ;
   RUN;

/* MERGE ALL SETS TO RETAIN UNRATCHETED VALUES FOR THE 4 PROVISIONS
*/
DATA nadbmain.V21;
    MERGE nadbmain.V21 S405I2 PROHIB CNT_UTIL CNT_AUTH;
    BY SEQ;
    RUN;

/* NOW RE-SORT nadbmain.V21 TO MERGE BY UCODE */
PROC SORT DATA=nadbmain.V21;
    BY UCODE;
    RUN;

/* Combine totals for 405(b)(4) and 405(i)(2) with main file and adjust */
DATA nadbmain.V21;
 MERGE nadbmain.V21(DROP=PROHIB S405I2) PROHIBS S405I2S;
BY MERGER;

/* skip units identified as "hardwired" deletions */
if SEQ in (
```

```
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */

2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
```

```
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
3574  /* WA      Kettle Falls    1       1               */
3711  /* WI      Combustion Turbine      **1     1       */
3756  /* WI      Manitowoc       9       7               */
3762  /* WI      NA 7222 **1     1                       */
3770  /* WI      NA 2    **1     1                       */
) then do;
    go to hardwire;
  end;
```

```
/* 405(b)(4) */
IF (STCAP88 > 30000) AND (PROHIB_O = 1) AND (O2C8085 = 1) AND
   (NAMEPCAP >= 75) AND (SO2RTE >= 1.2) AND
   (PERM_ALL < (HT60SHR * 65 / 60 * MIN(SO2RTE,ANNLIM85) / 2)) THEN DO;
        FLAG2 = FLAG2 + 0.06;
        RPERM_06 = round((((HT60SHR * 65 / 60 * MIN(ANNLIM85,SO2RTE) / 2)
                                   - PERM_ALL) * 5 / MAX(PROHIB,5)),.001);
        END;

/* 405(i)(2) */
IF  ((SO2RTE80^=0) OR (SO2RTE90^=0) OR (SO2LIM80^=0) OR (SO2LIM90^=0))
    and YRONL>1969  and (CMIN80^=0) and (SO22000<1.2) and
        (SO2SYS80^=0) THEN DO;
     IF (((SO2RTE80 <= SO2LIM80) AND ((SO2RTE90 / SO2RTE80) <= 0.5)) OR
     ((SO2RTE80 > SO2LIM80) AND ((SO2LIM90 / SO2LIM80) <= 0.5))) AND
     (NAMEPCAP >= 75) AND (MIN(ANNLIM85,SO2RTE) >= 1.2) and
      ((CMIN90/CMIN80)>1.2) AND ((SO2SYS88/SO2SYS80)<=0.6) THEN DO;
        FLAG2 = FLAG2 + 0.05;
        RPERM_05 = ROUND(MAX(0,((MXBS8089 - BASELINE) * 1.2 / 2)),.001);
        IF S405I2 > 5 THEN RPERM_05 = round(RPERM_05 * 5 / S405I2,.001);
        END;
     END;

hardwire:;

RUN;

/* Combine totals for 405(f)(2) with main file and adjust */
DATA nadbmain.V21;
 MERGE nadbmain.V21(DROP=CNT_UTIL CNT_AUTH) CNT_UTSM CNT_AUSM;
 BY UCODE;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen              */
0020  /* AL      Future Fossil   **1     1                */
0036  /* AL      McIntosh CAES   **2     2                */
0043  /* AL      McWilliams      **CT1   CT1              */
0044  /* AL      McWilliams      **CT2   CT2              */
0045  /* AL      McWilliams      **CT3   CT3              */
0117  /* AR      NA1-7246        **1     1                */
0160  /* CA      El Centro       2       2                */
0188  /* CA      Harbor Gen Station      **10    10       */
0392  /* CO      Valmont 11      1                        */
0393  /* CO      Valmont 11      2                        */
0394  /* CO      Valmont 11      3                        */
0395  /* CO      Valmont 11      4                        */
0396  /* CO      Valmont 12      1                        */
0397  /* CO      Valmont 12      2                        */
0398  /* CO      Valmont 12      3                        */
0399  /* CO      Valmont 12      4                        */
0400  /* CO      Valmont 13      1                        */
0401  /* CO      Valmont 13      2                        */
0402  /* CO      Valmont 13      3                        */
0403  /* CO      Valmont 13      4                        */
0412  /* CO      Valmont 22      1                        */
0413  /* CO      Valmont 22      2                        */
0414  /* CO      Valmont 22      3                        */
0415  /* CO      Valmont 22      4                        */
0416  /* CO      Valmont 23      1                        */
0417  /* CO      Valmont 23      2                        */
0418  /* CO      Valmont 23      3                        */
0419  /* CO      Valmont 23      4                        */
0442  /* CT      South Meadow    11      5                */
0443  /* CT      South Meadow    11      6                */
0444  /* CT      South Meadow    12      5                */
0445  /* CT      South Meadow    12      6                */
0446  /* CT      South Meadow    13      5                */
0447  /* CT      South Meadow    13      6                */
0541  /* FL      G W Ivey        **22    22               */
0597  /* FL      Lauderdale      PFL4    ST4              */
0598  /* FL      Lauderdale      PFL5    ST5              */
0607  /* FL      Martin  **3ST   3ST                      */
0608  /* FL      Martin  **4ST   4ST                      */
0811  /* IL      Lakeside        GT1     GT1              */
0812  /* IL      Lakeside        GT2     GT2              */
1011  /* IN      NA1-7221        **2     2                */
1017  /* IN      NA1-7228        **4     4                */
1018  /* IN      NA1-7228        **5     5                */
1133  /* IA      NA1-7230        **1     1                */
1283  /* KS      Ripley  **2     2                        */
1284  /* KS      Ripley  **3     3                        */
1351  /* KY      J K Smith       1       1                */
1496  /* LA      R S Nelson      1       1                */
1497  /* LA      R S Nelson      2       2                */
1723  /* MI      Delray  11      14                       */
```

```
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
```

```
3237  /* TX      Deepwater       DWP4    3                */
3238  /* TX      Deeepwater      DWP4    4                */
3239  /* TX      Deepwater       DWP4    6                */
3240  /* TX      Deepwater       DWP5    1                */
3241  /* TX      Deepwater       DWP5    2                */
3242  /* TX      Deepwater       DWP5    3                */
3243  /* TX      Deepwater       DWP5    4                */
3244  /* TX      Deepwater       DWP5    6                */
3245  /* TX      Deepwater       DWP6    1                */
3246  /* TX      Deepwater       DWP6    2                */
3247  /* TX      Deepwater       DWP6    3                */
3248  /* TX      Deepwater       DWP6    4                */
3249  /* TX      Deepwater       DWP6    6                */
3268  /* TX      GT98    **1     1                        */
3269  /* TX      GT98    **2     2                        */
3270  /* TX      GT99    **1     1                        */
3271  /* TX      GT99    **2     2                        */
3272  /* TX      GT99    **3     3                        */
3354  /* TX      NA1-7216        **1     1                */
3355  /* TX      NA1-7216        **2     2                */
3438  /* TX      San Miguel      **2     2                */
3463  /* TX      TNP One **3     3                        */
3464  /* TX      TNP One **4     4                        */
3507  /* UT      Bonanza **2     2                        */
3549  /* VA      Chesterfield    **8B    8B               */
3574  /* WA      Kettle Falls    1       1                */
3711  /* WI      Combustion Turbine      **1     1        */
3756  /* WI      Manitowoc       9       7                */
3762  /* WI      NA 7222 **1     1                        */
3770  /* WI      NA 2    **1     1                        */
) then do;
    go to hardwire;
  end;

IF CONTUTIL = 1 THEN DO;
        RPERM107 = round((PERM_ALL * 7 / CNT_UTIL),.001);
        FLAG2 = FLAG2 + 0.1;
        END;

IF CONTAUTH = 1 THEN DO;
        RPERM102 = round((PERM_ALL * 2 / CNT_AUTH),.001);
        FLAG2 = FLAG2 + 0.1;
        END;

/* 405(c)(3) */
IF (NAMEPCAP < 75) AND (SO2RTE >= 1.2) AND (YRONL < 1966) AND
   (250 < UCAPFSST < 450) AND (UCUST90 < 78000) AND (UCUST90^=0) THEN DO;
         PERM_07 = (BASELINE * (MIN(SO2RTE,ANNLIM85)-1.2) / 2);
        PERM_ALL = BASELINE * MIN(SO2RTE,ANNLIM85) / 2;
        PERM2010 = BASELINE * (1.2 - MIN(SO2RTE,ANNLIM85)) / 2;
        BONUS = 0;
        FLAG2 = FLAG2 + 0.07;
        END;

/* 405(j) */
IF (PRIMFUEL = 2) AND (FLAGMUNI = 1) AND (25 < NAMEPCAP <= 40) AND
   (MIN(SO2RTE,ANNLIM85) < 1.2) AND (YRONL <= 1990) THEN DO;
        PERM_ALL = PERM_ALL + (HT60SHR * MIN(SO2RTE,ANNLIM85) / 2);
        MUN_PERM = HT60SHR * MIN(SO2RTE,ANNLIM85) / 2;
        FLAG2 = FLAG2 + 0.08;
        END;

/* 404(h)(1) and 404(h)(2) */
IF SO2SYS90^=0 AND SO2RTE80^=0 THEN DO;
  IF (SO2RTE90 < 1.0) AND (SO2RTE90 / SO2RTE80 < 0.4) AND
   (SO2SYS90 < 1.0) AND (SO2SYS90^= 0) THEN DO;
         PERM_09 = (MAX((PERM_ALL+BONUS),(HT60SHR*MIN(1.0,SO2RTE89)/2)))
                 - (PERM_ALL+BONUS);
        PERM_ALL = MAX((PERM_ALL+BONUS),(HT60SHR*MIN(1.0,SO2RTE89)/2));
        FLAG2 = FLAG2 + 0.09;
        END;
  END;

/* EXISTING UNITS < 25 mW GET NO ALLOWANCES! */
IF (NAMEPCAP <= 25) AND ((YRONL < 1990) OR ((YRONL = 1990) AND (MNONL <
12)))
        THEN DO;
           PERM_ALL = 0;
           RPERM107 = 0;
           RPERM102 = 0;
           MUN_PERM = 0;
           PERM_07 = 0;
           PERM2010 = 0;
           END;

/* Hard Code for Retired Units: no allowances */
```

```
/* IL: R S WALLACE  7  5  859 */
IF (ORISPL=859 and compress(blrid)='7' and compress(genid)='5')
/* IL: R S WALLACE  8  5  859 */
OR (ORISPL=859 and compress(blrid)='8' and compress(genid)='5')
/* KY: CANE RUN  1  1  1363 */
OR (ORISPL=1363 and compress(blrid)='1' and compress(genid)='1')
/* KY: CANE RUN  2  2  1363 */
OR (ORISPL=1363 and compress(blrid)='2' and compress(genid)='2')
/* OH: FRANK M TAIT  4  4  2847 */
OR (ORISPL=2847 and compress(blrid)='4' and compress(genid)='4')
/* OH: FRANK M TAIT  5  5  2847 */
OR (ORISPL=2847 and compress(blrid)='5' and compress(genid)='5')

/* Additional Units */
/* NE: JONES STREET  26  11  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='26' AND COMPRESS(GENID)='11')
/* NE: JONES STREET  27  12  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='27' AND COMPRESS(GENID)='12')
/* NM: RIO GRANDE  4  4  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='4' AND COMPRESS(GENID)='4')
/* NM: RIO GRANDE  5  5  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='5' AND COMPRESS(GENID)='5')
/* TX: KNOX LEE    1  1  3476 */
OR (ORISPL=3476 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  1  1  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  2  2  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* WI: EDGEWATER   2  2  4050 */
OR (ORISPL=4050 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* OH: FRANK M TAIT  7-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-1')
/* OH: FRANK M TAIT  7-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-2')
/* OH: FRANK M TAIT  8-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-1')
/* OH: FRANK M TAIT  8-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-2')
/* IA: RIVERSIDE  6 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='6')
/* IA: RIVERSIDE  7 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='7')
/* IA: RIVERSIDE  8 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='8')
/* Also Hard Code for Retired Units (epa memo 2/24/93) */
/* IL: R S WALLACE  6 859 */
OR (ORISPL=859  AND COMPRESS(BLRID)='6')
/* LA: COUGHLIN  5 1396 */
OR (ORISPL=1396 AND COMPRESS(BLRID)='5')
/* OH: POSTON  4 2844 */
OR (ORISPL=2844 AND COMPRESS(BLRID)='4')
/* Also Hard Code for Retired Units (epa memo 3/1/93) */
/* DE: DELAWARE CITY  592 */
OR (ORISPL=592)
/* NY: HUDSON AVENUE 2496 */
OR (ORISPL=2496)
/* NY: 59TH STREET  ~110  2503 */
OR (ORISPL=2503 AND COMPRESS(BLRID) NE '110')

        THEN DO;
           PERM_ALL = 0;
           RPERM107 = 0;
           RPERM102 = 0;
           MUN_PERM = 0;
           PERM_07 = 0;
           PERM2010 = 0;
           END;
hardwire:;

RUN;

/* Force exact totals for 404(f)(2) and (i)(2), */
/*  then add increment to PERM_ALL              */
%adjtot(RPERM107,nadbmain.V21,7.000,.001,SEQ);
%adjtot(RPERM102,nadbmain.V21,2.000,.001,SEQ);
%adjtot(RPERM_05,nadbmain.V21,5.000,.001,SEQ);
%adjtot(RPERM_06,nadbmain.V21,5.000,.001,SEQ);

data nadbmain.V21;
set nadbmain.V21;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
```

```
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
```

```
2478  /* NY      Rochester 3     2       6                */
2479  /* NY      Rochester 3     2       8                */
2480  /* NY      Rochester 3     2       9                */
2481  /* NY      Rochester 3     2       10               */
2487  /* NY      Rochester 3     4       3                */
2488  /* NY      Rochester 3     4       6                */
2489  /* NY      Rochester 3     4       8                */
2490  /* NY      Rochester 3     4       9                */
2491  /* NY      Rochester 3     4       10               */
2621  /* ND      Dakotas **1     1                        */
2702  /* OH      Dover   **7     7                        */
2919  /* OK      Inola   **1     1                        */
3014  /* PA      Marcus Hook Refinery 1  GEN1             */
3038  /* PA      Richmond        63      9                */
3039  /* PA      Richmond        64      9                */
3048  /* PA      Southwark       11      1                */
3049  /* PA      Southwark       12      1                */
3050  /* PA      Southwark       21      2                */
3051  /* PA      Southwark       22      2                */
3073  /* PA      Trenton Cogen Project   **1     1        */
3107  /* SC      NA2-7107        **GT2   GT2              */
3108  /* SC      NA3-7108        **GT3   GT3              */
3125  /* SD      CT      **5     5                        */
3138  /* SD      Mobile  **2     2                        */
3204  /* TX      Concho  2       3                        */
3205  /* TX      Concho  2       4                        */
3206  /* TX      Concho  4       3                        */
3207  /* TX      Concho  4       4                        */
3208  /* TX      Concho  5       3                        */
3209  /* TX      Concho  5       4                        */
3210  /* TX      Concho  6       3                        */
3211  /* TX      Concho  6       4                        */
3220  /* TX      Deepwater       DWP1    1                */
3221  /* TX      Deepwater       DWP1    2                */
3222  /* TX      Deepwater       DWP1    3                */
3223  /* TX      Deepwater       DWP1    4                */
3224  /* TX      Deepwater       DWP1    6                */
3225  /* TX      Deepwater       DWP2    1                */
3226  /* TX      Deepwater       DWP2    2                */
3227  /* TX      Deepwater       DWP2    3                */
3228  /* TX      Deepwater       DWP2    4                */
3229  /* TX      Deepwater       DWP2    6                */
3230  /* TX      Deepwater       DWP3    1                */
3231  /* TX      Deepwater       DWP3    2                */
3232  /* TX      Deepwater       DWP3    3                */
3233  /* TX      Deepwater       DWP3    4                */
3234  /* TX      Deepwater       DWP3    6                */
3235  /* TX      Deepwater       DWP4    1                */
3236  /* TX      Deepwater       DWP4    2                */
3237  /* TX      Deepwater       DWP4    3                */
3238  /* TX      Deeepwater      DWP4    4                */
3239  /* TX      Deepwater       DWP4    6                */
3240  /* TX      Deepwater       DWP5    1                */
3241  /* TX      Deepwater       DWP5    2                */
3242  /* TX      Deepwater       DWP5    3                */
3243  /* TX      Deepwater       DWP5    4                */
3244  /* TX      Deepwater       DWP5    6                */
3245  /* TX      Deepwater       DWP6    1                */
3246  /* TX      Deepwater       DWP6    2                */
3247  /* TX      Deepwater       DWP6    3                */
3248  /* TX      Deepwater       DWP6    4                */
3249  /* TX      Deepwater       DWP6    6                */
3268  /* TX      GT98    **1     1                        */
3269  /* TX      GT98    **2     2                        */
3270  /* TX      GT99    **1     1                        */
3271  /* TX      GT99    **2     2                        */
3272  /* TX      GT99    **3     3                        */
3354  /* TX      NA1-7216        **1     1                */
3355  /* TX      NA1-7216        **2     2                */
3438  /* TX      San Miguel      **2     2                */
3463  /* TX      TNP One **3     3                        */
3464  /* TX      TNP One **4     4                        */
3507  /* UT      Bonanza **2     2                        */
3549  /* VA      Chesterfield    **8B    8B               */
3574  /* WA      Kettle Falls    1       1                */
3711  /* WI      Combustion Turbine      **1     1        */
3756  /* WI      Manitowoc       9       7                */
3762  /* WI      NA 7222 **1     1                        */
3770  /* WI      NA 2    **1     1                        */
) then do;
    go to hardwire;
  end;

  IF CONTUTIL = 1 THEN PERM_ALL = PERM_ALL + RPERM107;
  IF CONTAUTH = 1 THEN PERM_ALL = PERM_ALL + RPERM102;
  IF RPERM_05 > 0 then PERM_ALL = PERM_ALL + RPERM_05;
```

```
  IF RPERM_06 > 0 then PERM_ALL = PERM_ALL + RPERM_06;

hardwire:;

RUN;

/* 405(i)(1) -- Adjust Growth State Extras to 40,000 */
PROC SUMMARY;
 VAR S405I1 S405I1_1;
 ID MERGER;
 OUTPUT OUT=GROWSTAT(KEEP=GROWSTAT GRST2010 MERGER)
SUM=GROWSTAT GRST2010;
RUN;

DATA nadbmain.V21;
  MERGE nadbmain.V21 GROWSTAT;
  BY MERGER;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
```

```
2200  /* NE      NA1-7019          **NA2   NA2              */
2217  /* NV      Clark   **9       9                       */
2218  /* NV      Clark   **10      10                      */
2255  /* NJ      Butler  **1       1                       */
2256  /* NJ      Butler  **3       3                       */
2257  /* NJ      Butler  **4       4                       */
2292  /* NJ      NA1-7139          **1     1               */
2293  /* NJ      NA2-7140          **1     1               */
2294  /* NJ      NA3-7141          **1     1               */
2295  /* NJ      NA3-7141          **2     2               */
2296  /* NJ      NA4-7142          **1     1               */
2297  /* NJ      NA5-7217          **1     1               */
2298  /* NJ      NA5-7217          **2     2               */
2299  /* NJ      NA6-7218          **1     1               */
2300  /* NJ      NA6-7218          **2     2               */
2331  /* NM      Escalante         **2     2               */
2340  /* NM      Maddox  **3       3                       */
2472  /* NY      Rochester 3       1       3               */
2473  /* NY      Rochester 3       1       6               */
2474  /* NY      Rochester 3       1       8               */
2475  /* NY      Rochester 3       1       9               */
2476  /* NY      Rochester 3       1       10              */
2477  /* NY      Rochester 3       2       3               */
2478  /* NY      Rochester 3       2       6               */
2479  /* NY      Rochester 3       2       8               */
2480  /* NY      Rochester 3       2       9               */
2481  /* NY      Rochester 3       2       10              */
2487  /* NY      Rochester 3       4       3               */
2488  /* NY      Rochester 3       4       6               */
2489  /* NY      Rochester 3       4       8               */
2490  /* NY      Rochester 3       4       9               */
2491  /* NY      Rochester 3       4       10              */
2621  /* ND      Dakotas **1       1                       */
2702  /* OH      Dover   **7       7                       */
2919  /* OK      Inola   **1       1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1              */
3038  /* PA      Richmond          63      9               */
3039  /* PA      Richmond          64      9               */
3048  /* PA      Southwark         11      1               */
3049  /* PA      Southwark         12      1               */
3050  /* PA      Southwark         21      2               */
3051  /* PA      Southwark         22      2               */
3073  /* PA      Trenton Cogen Project     **1     1       */
3107  /* SC      NA2-7107          **GT2   GT2             */
3108  /* SC      NA3-7108          **GT3   GT3             */
3125  /* SD      CT      **5       5                       */
3138  /* SD      Mobile  **2       2                       */
3204  /* TX      Concho  2         3                       */
3205  /* TX      Concho  2         4                       */
3206  /* TX      Concho  4         3                       */
3207  /* TX      Concho  4         4                       */
3208  /* TX      Concho  5         3                       */
3209  /* TX      Concho  5         4                       */
3210  /* TX      Concho  6         3                       */
3211  /* TX      Concho  6         4                       */
3220  /* TX      Deepwater         DWP1    1               */
3221  /* TX      Deepwater         DWP1    2               */
3222  /* TX      Deepwater         DWP1    3               */
3223  /* TX      Deepwater         DWP1    4               */
3224  /* TX      Deepwater         DWP1    6               */
3225  /* TX      Deepwater         DWP2    1               */
3226  /* TX      Deepwater         DWP2    2               */
3227  /* TX      Deepwater         DWP2    3               */
3228  /* TX      Deepwater         DWP2    4               */
3229  /* TX      Deepwater         DWP2    6               */
3230  /* TX      Deepwater         DWP3    1               */
3231  /* TX      Deepwater         DWP3    2               */
3232  /* TX      Deepwater         DWP3    3               */
3233  /* TX      Deepwater         DWP3    4               */
3234  /* TX      Deepwater         DWP3    6               */
3235  /* TX      Deepwater         DWP4    1               */
3236  /* TX      Deepwater         DWP4    2               */
3237  /* TX      Deepwater         DWP4    3               */
3238  /* TX      Deeepwater        DWP4    4               */
3239  /* TX      Deepwater         DWP4    6               */
3240  /* TX      Deepwater         DWP5    1               */
3241  /* TX      Deepwater         DWP5    2               */
3242  /* TX      Deepwater         DWP5    3               */
3243  /* TX      Deepwater         DWP5    4               */
3244  /* TX      Deepwater         DWP5    6               */
3245  /* TX      Deepwater         DWP6    1               */
3246  /* TX      Deepwater         DWP6    2               */
3247  /* TX      Deepwater         DWP6    3               */
3248  /* TX      Deepwater         DWP6    4               */
3249  /* TX      Deepwater         DWP6    6               */
3268  /* TX      GT98    **1       1                       */
```

```
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
3574  /* WA      Kettle Falls    1       1               */
3711  /* WI      Combustion Turbine      **1     1       */
3756  /* WI      Manitowoc       9       7               */
3762  /* WI      NA 7222 **1     1                       */
3770  /* WI      NA 2    **1     1                       */
) then do;
    go to hardwire;
  end;

  IF (SPOP8088 > 25) AND (STCAP88 > 30000) THEN DO;
      S405I1_P = round((S405I1 * 40 / GROWSTAT),.001);
      S405I1_F = round((S405I1_1 * 40 / GRST2010),.001);
      END;
  ELSE DO;
      S405I1_P = 0;
      S405I1_F = 0;
      END;

  /* create "compressed" blrid variable for Sec. 406 Sort */
  c_blrid=compress(blrid);

hardwire:;

RUN;


/*************************************/
/* END -- Additional Special Provisions */
/*************************************/

/* run adjtot macro to check adjusted totals and fix, if needed */
%adjtot(s405i1_p,nadbmain.V21,40.000,.001,SEQ);
%adjtot(s405i1_f,nadbmain.V21,40.000,.001,SEQ);

/*********************************/
/* 406 -- Clean States Provision */
/*********************************/

/* Sort by blrid */
PROC SORT DATA=nadbmain.V21;
 BY STATNAM UCODE PNAME c_blrid GENID;
RUN;

/* Create variables for calculation of statewide so2 rates */
DATA nadbmain.V21 (DROP=CURID); /*AK10/30/96*/
SET nadbmain.V21;
BY STATNAM UCODE PNAME c_blrid;
RETAIN CURID '      '; /*AK10/30/96*/

          if FIRST.PNAME THEN CURID ='      ' ; /*AK10/30/96*/
          blrSO2 = 0;
          blrTOTHT = 0;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
```

```
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
```

```
3050  /* PA      Southwark       21      2                */
3051  /* PA      Southwark       22      2                */
3073  /* PA      Trenton Cogen Project   **1     1        */
3107  /* SC      NA2-7107        **GT2   GT2              */
3108  /* SC      NA3-7108        **GT3   GT3              */
3125  /* SD      CT      **5     5                        */
3138  /* SD      Mobile  **2     2                        */
3204  /* TX      Concho  2       3                        */
3205  /* TX      Concho  2       4                        */
3206  /* TX      Concho  4       3                        */
3207  /* TX      Concho  4       4                        */
3208  /* TX      Concho  5       3                        */
3209  /* TX      Concho  5       4                        */
3210  /* TX      Concho  6       3                        */
3211  /* TX      Concho  6       4                        */
3220  /* TX      Deepwater       DWP1    1                */
3221  /* TX      Deepwater       DWP1    2                */
3222  /* TX      Deepwater       DWP1    3                */
3223  /* TX      Deepwater       DWP1    4                */
3224  /* TX      Deepwater       DWP1    6                */
3225  /* TX      Deepwater       DWP2    1                */
3226  /* TX      Deepwater       DWP2    2                */
3227  /* TX      Deepwater       DWP2    3                */
3228  /* TX      Deepwater       DWP2    4                */
3229  /* TX      Deepwater       DWP2    6                */
3230  /* TX      Deepwater       DWP3    1                */
3231  /* TX      Deepwater       DWP3    2                */
3232  /* TX      Deepwater       DWP3    3                */
3233  /* TX      Deepwater       DWP3    4                */
3234  /* TX      Deepwater       DWP3    6                */
3235  /* TX      Deepwater       DWP4    1                */
3236  /* TX      Deepwater       DWP4    2                */
3237  /* TX      Deepwater       DWP4    3                */
3238  /* TX      Deeepwater      DWP4    4                */
3239  /* TX      Deepwater       DWP4    6                */
3240  /* TX      Deepwater       DWP5    1                */
3241  /* TX      Deepwater       DWP5    2                */
3242  /* TX      Deepwater       DWP5    3                */
3243  /* TX      Deepwater       DWP5    4                */
3244  /* TX      Deepwater       DWP5    6                */
3245  /* TX      Deepwater       DWP6    1                */
3246  /* TX      Deepwater       DWP6    2                */
3247  /* TX      Deepwater       DWP6    3                */
3248  /* TX      Deepwater       DWP6    4                */
3249  /* TX      Deepwater       DWP6    6                */
3268  /* TX      GT98    **1     1                        */
3269  /* TX      GT98    **2     2                        */
3270  /* TX      GT99    **1     1                        */
3271  /* TX      GT99    **2     2                        */
3272  /* TX      GT99    **3     3                        */
3354  /* TX      NA1-7216        **1     1                */
3355  /* TX      NA1-7216        **2     2                */
3438  /* TX      San Miguel      **2     2                */
3463  /* TX      TNP One **3     3                        */
3464  /* TX      TNP One **4     4                        */
3507  /* UT      Bonanza **2     2                        */
3549  /* VA      Chesterfield    **8B    8B               */
3574  /* WA      Kettle Falls    1       1                */
3711  /* WI      Combustion Turbine      **1     1        */
3756  /* WI      Manitowoc       9       7                */
3762  /* WI      NA 7222 **1     1                        */
3770  /* WI      NA 2    **1     1                        */
) then do;
    go to hardwire;
  end;

        IF CURID NE c_blrid THEN DO;     /*AK10/30/96*/
           blrSO2 = SO2;
           blrTOTHT = TOTHT;
           CURID = c_blrid;             /*AK10/30/96*/
           END;

hardwire:;

RUN;

/* Calculate statewide totals of so2 and Fuel consumption */
PROC SUMMARY DATA=nadbmain.V21;
        BY STATNAM;
        VAR blrSO2 blrTOTHT;
        OUTPUT OUT=BONUS125(KEEP=STATNAM SUMSO2 SUMTOTHT)
                        SUM=SUMSO2 SUMTOTHT;
RUN;

/* Calculate statewide so2 rate */
DATA nadbmain.V21;
```

```
        MERGE nadbmain.V21 BONUS125;
        BY STATNAM;
        STATRATE = SUMSO2 / SUMTOTHT * 2 / 1000;
        cl_state=0;
        if statrate <= 0.8 then cl_state=1;
RUN;

proc sort data=nadbmain.V21;
 BY STATNAM UCODE PNAME GENID;
run;

/* Calculate generation in "clean
" states */
DATA nadbmain.V21 (DROP=CURID);  /*AK10/30/96*/
SET nadbmain.V21;
BY STATNAM UCODE PNAME GENID;
RETAIN CURID '    '; /*AK10/30/96*/

        if FIRST.PNAME THEN CURID = '    '; /*AK10/30/96*/
        GENSUM = 0;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
```

```
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
```

```
3248  /* TX      Deepwater       DWP6    4                */
3249  /* TX      Deepwater       DWP6    6                */
3268  /* TX      GT98    **1     1                        */
3269  /* TX      GT98    **2     2                        */
3270  /* TX      GT99    **1     1                        */
3271  /* TX      GT99    **2     2                        */
3272  /* TX      GT99    **3     3                        */
3354  /* TX      NA1-7216        **1     1                */
3355  /* TX      NA1-7216        **2     2                */
3438  /* TX      San Miguel      **2     2                */
3463  /* TX      TNP One **3     3                        */
3464  /* TX      TNP One **4     4                        */
3507  /* UT      Bonanza **2     2                        */
3549  /* VA      Chesterfield    **8B    8B               */
3574  /* WA      Kettle Falls    1       1                */
3711  /* WI      Combustion Turbine      **1     1        */
3756  /* WI      Manitowoc       9       7                */
3762  /* WI      NA 7222 **1     1                        */
3770  /* WI      NA 2    **1     1                        */
) then do;
    go to hardwire;
  end;

        IF (STATRATE <= 0.8) AND CURID NE GENID AND   /*AK10/30/96*/
           ((NAMEPCAP > 25) or ((YRONL > 1990) OR ((YRONL = 1990) AND
            (MNONL > 9)))) THEN DO;
                GENSUM = GENER;
                CURID = GENID;             /*AK10/30/96*/
                END;                       /*AK10/30/96*/
hardwire:;

/* set total basic allowances, 2000-2009 and 2010 and later */
        BASIC_09 = ROUND((PERM_ALL + S405I1_P),.001);
        BASIC_10 = ROUND((PERM_ALL + PERM2010 + S405I1_F),.001);
RUN;


/* Calculate totals of basic and 405(i)(1) allowances and generation */
PROC SUMMARY DATA=nadbmain.V21;
        VAR GENSUM BASIC_09 BASIC_10;
        ID MERGER;
        OUTPUT OUT=GENRPERM(KEEP=MERGER GENERSUM SUM_09 SUM_10)
                   SUM=GENERSUM SUM_09 SUM_10;
RUN;

/* Merge totals with main file */
DATA nadbmain.V21;
        MERGE nadbmain.V21 GENRPERM;
        BY MERGER;
RUN;

/* Adjust Clean States Bonus to 125,000 total */
DATA nadbmain.V21 (DROP=CURID); /*AK10/30/96*/
SET nadbmain.V21;
BY STATNAM UCODE PNAME GENID;
RETAIN CURID '    '; /*AK10/30/96*/

        if FIRST.PNAME THEN CURID = '    '; /*AK10/30/96*/
        BONUS125 = 0;

/* skip units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen              */
0020  /* AL      Future Fossil   **1     1                */
0036  /* AL      McIntosh CAES   **2     2                */
0043  /* AL      McWilliams      **CT1   CT1              */
0044  /* AL      McWilliams      **CT2   CT2              */
0045  /* AL      McWilliams      **CT3   CT3              */
0117  /* AR      NA1-7246        **1     1                */
0160  /* CA      El Centro       2       2                */
0188  /* CA      Harbor Gen Station      **10    10       */
0392  /* CO      Valmont 11      1                        */
0393  /* CO      Valmont 11      2                        */
0394  /* CO      Valmont 11      3                        */
0395  /* CO      Valmont 11      4                        */
0396  /* CO      Valmont 12      1                        */
0397  /* CO      Valmont 12      2                        */
0398  /* CO      Valmont 12      3                        */
0399  /* CO      Valmont 12      4                        */
0400  /* CO      Valmont 13      1                        */
0401  /* CO      Valmont 13      2                        */
0402  /* CO      Valmont 13      3                        */
0403  /* CO      Valmont 13      4                        */
0412  /* CO      Valmont 22      1                        */
0413  /* CO      Valmont 22      2                        */
0414  /* CO      Valmont 22      3                        */
```

```
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
```

```
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
3574  /* WA      Kettle Falls    1       1               */
3711  /* WI      Combustion Turbine      **1     1       */
3756  /* WI      Manitowoc       9       7               */
3762  /* WI      NA 7222 **1     1                       */
3770  /* WI      NA 2    **1     1                       */
) then do;
    go to hardwire;
  end;

        IF (STATRATE <= 0.8) AND
           ((NAMEPCAP > 25) or ((YRONL > 1990) OR ((YRONL = 1990) AND
            (MNONL > 9)))) THEN DO;
                IF CURID NE GENID THEN DO;                          /*AK10/30/96*/
                  BONUS125 = round((GENER * 125 /GENERSUM),.001); /*AK10/30/96*/
                  CURID=GENID;                                      /*AK10/30/96*/
                END;                                                /*AK10/30/96*/
                FLAG2 = FLAG2 + 3;
                END;

hardwire:;

RUN;

/* run adjtot macro to check adjusted totals and fix, if needed */
%adjtot(bonus125,nadbmain.V21,125.000,.001,SEQ);

PROC SORT DATA=nadbmain.V21;
   BY STATNAM;
   RUN;

/* Calculate state totals of bonus and clean states bonus for elections */
PROC SUMMARY DATA=nadbmain.V21;
        BY STATNAM;
```

```
        VAR BONUS BONUS125;
        OUTPUT OUT=SUMBONUS(KEEP=STATNAM SUMBON SUMB125)
SUM=SUMBON SUMB125;
RUN;

/* Merge totals with main file, Adjust basic allowances to 8.9 million */
DATA nadbmain.V21;
    MERGE nadbmain.V21(DROP=SUMB125) SUMBONUS;
    BY STATNAM;
    BAS89_09 = round((BASIC_09 * 8900 / SUM_09),.001);
    BAS89_10 = round((BASIC_10 * 8900 / SUM_10),.001);
RUN;

/* run adjtot macro to check adjusted totals and fix, if needed */
%adjtot(bas89_09,nadbmain.V21,8900.000,.001,SEQ);
%adjtot(bas89_10,nadbmain.V21,8900.000,.001,SEQ);



/*************************************************************************/
/* 405(a)(3) -- Additional 50,000 for Phase I affected units (mod 3/19/93) */
/*************************************************************************/

/* Select appropriate units */
DATA PHASEI;
SET nadbmain.V21;
    IF totalph1 = 0 THEN DELETE;
    IF upcase(PNAME) = 'CLIFTY CREEK' OR upcase(PNAME) = 'JOPPA STEAM'
       OR upcase(PNAME) = 'KYGER CREEK'
        THEN DELETE;
    IF ((STATNAM = 'ILLINOIS') OR (STATNAM = 'INDIANA') OR (STATNAM = 'OHIO')
    OR (STATNAM = 'GEORGIA') OR (STATNAM = 'ALABAMA') OR (STATNAM =
'MISSOURI')
    OR (STATNAM = 'PENNSYLVANIA') OR (STATNAM = 'WEST VIRGINIA')
    OR (STATNAM = 'KENTUCKY') OR (STATNAM = 'TENNESSEE')) THEN OUTPUT;
RUN;

/* Calculate sum of basic allowances to adjust total */
PROC SUMMARY DATA=PHASEI;
        VAR BASIC_09 BASIC_10;
        ID MERGER;
        OUTPUT OUT=PH1SUM(KEEP=B_09 B_10 MERGER) SUM=B_09 B_10;
RUN;

/* Merge total with main file, calculate 405(a)(3) allowances, and make */
/*   election for clean states.  Finally, calculate total allowances.   */
DATA nadbmain.V21;
MERGE nadbmain.V21 PH1SUM;
BY MERGER;

/* 405(a)(3) */
    IF (upcase(PNAME)  ^= 'CLIFTY CREEK') AND (upcase(PNAME) ^= 'JOPPA STEAM')
       AND (upcase(PNAME) ^= 'KYGER CREEK') AND (totalph1 > 0)
    AND ((STATNAM = 'ILLINOIS') OR (STATNAM = 'INDIANA') OR (STATNAM =
'OHIO')
    OR (STATNAM = 'GEORGIA') OR (STATNAM = 'ALABAMA') OR (STATNAM =
'MISSOURI')
    OR (STATNAM = 'PENNSYLVANIA') OR (STATNAM = 'WEST VIRGINIA')
    OR (STATNAM = 'KENTUCKY') OR (STATNAM = 'TENNESSEE')) THEN DO;
        PHASEI09 = round((50 * BASIC_09 / B_09),.001);
        PHASEI10 = round((50 * BASIC_10 / B_10),.001);
        FLAG2 = FLAG2 + 2;
        END;

/* 406 -- Make election for clean states */

    IF (SUMB125 > SUMBON) or (cl_state=1
        and (statnam='ARIZONA' or statnam='ARKANSAS' or statnam='COLORADO'
             or statnam='LOUISIANA' or statnam='NEVADA' or statnam='NEW MEXICO'
             or statnam='OKLAHOMA' or statnam='WYOMING'))
      THEN DO;
        FLAG2 = FLAG2 + 1;
        TOTAL_09 = BAS89_09 + BONUS125 + PHASEI09;
        TOTALBON = round(BONUS125,.001);
        END;
    ELSE DO;
        TOTAL_09 = BAS89_09 + BONUS + PHASEI09;
        TOTALBON = round(BONUS,.001);
        END;

   TOTAL_10 = BAS89_10 + PHASEI10;

/*Correction for Washington State */

    IF  (STATNAM = 'WASHINGTON')  THEN DO;
              FLAG2 = 0;
```

```
                END;

/* Set flags for certain types of units */
    IF (YRONL > 1995) AND (FLAG1 ^= 11) THEN DO;
        FLAG2 = 0;
        FLAG1 = 13;
        END;
*   IF ((YRONL < 1990) OR ((YRONL = 1990) AND (MNONL < 12))) AND
*                       ((SO2CATEG = 4) OR (SO2CATEG = 9)) THEN DO;
*       FLAG2 = 0;
*       FLAG1 = 14;
*       END;
    IF ((NAMEPCAP <= 25) AND ((YRONL < 1990) OR ((YRONL = 1990) AND
                            (MNONL < 12))))
/* IA: RIVERSIDE  6 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='6')
/* IA: RIVERSIDE  7 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='7')
/* IA: RIVERSIDE  8 1081 */
OR (ORISPL=1081 AND COMPRESS(BLRID)='8')


/* Also Hard Code for Retired Units (epa memo 3/1/93) */
/* DE: DELAWARE CITY  592 */
OR (ORISPL=592)
/* NY: HUDSON AVENUE 2496 */
OR (ORISPL=2496)
/* NY: 59TH STREET  ~110  2503 */
OR (ORISPL=2503 AND COMPRESS(BLRID) NE '110')

/*Hard code for FLAG1 for NA5--7217 & NA6--7218*/
/* IA: NA5--7217  **1 2297 */
OR (ORISPL=2297 AND COMPRESS(BLRID)='**1')
/* IA: NA6--7217  **1 2298 */
OR (ORISPL=2298 AND COMPRESS(BLRID)='**2')
/* IA: NA6--7218  **1 2299 */
OR (ORISPL=2299 AND COMPRESS(BLRID)='**1')
/* IA: NA6--7218  **1 2300 */
OR (ORISPL=2300 AND COMPRESS(BLRID)='**2')

      THEN DO;
        FLAG2 = 0;
        FLAG1 = 12;
        END;

/* Hard Code for Retired Units: FLAG1 = 12.1 */
/* IL: R S WALLACE  7  5  859 */
IF (ORISPL=859 and compress(blrid)='7' and compress(genid)='5')
/* IL: R S WALLACE  8  5  859 */
OR (ORISPL=859 and compress(blrid)='8' and compress(genid)='5')
/* KY: CANE RUN  1  1  1363 */
OR (ORISPL=1363 and compress(blrid)='1' and compress(genid)='1')
/* KY: CANE RUN  2  2  1363 */
OR (ORISPL=1363 and compress(blrid)='2' and compress(genid)='2')
/* OH: FRANK M TAIT  4  4  2847 */
OR (ORISPL=2847 and compress(blrid)='4' and compress(genid)='4')
/* OH: FRANK M TAIT  5  5  2847 */
OR (ORISPL=2847 and compress(blrid)='5' and compress(genid)='5')

/* Additional Units */
/* NE: JONES STREET  26  11  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='26' AND COMPRESS(GENID)='11')
/* NE: JONES STREET  27  12  2290 */
OR (ORISPL=2290 AND COMPRESS(BLRID)='27' AND COMPRESS(GENID)='12')
/* NM: RIO GRANDE  4  4  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='4' AND COMPRESS(GENID)='4')
/* NM: RIO GRANDE  5  5  2444 */
OR (ORISPL=2444 AND COMPRESS(BLRID)='5' AND COMPRESS(GENID)='5')
/* TX: KNOX LEE    1  1  3476 */
OR (ORISPL=3476 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  1  1  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='1' AND COMPRESS(GENID)='1')
/* TX: LEON CREEK  2  2  3609 */
OR (ORISPL=3609 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* WI: EDGEWATER   2  2  4050 */
OR (ORISPL=4050 AND COMPRESS(BLRID)='2' AND COMPRESS(GENID)='2')
/* OH: FRANK M TAIT  7-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-1')
/* OH: FRANK M TAIT  7-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='7-2')
/* OH: FRANK M TAIT  8-1  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-1')
/* OH: FRANK M TAIT  8-2  2847 */
OR (ORISPL=2847 AND COMPRESS(BLRID)='8-2')
/* Also Hard Code for Retired Units (moved from 12.0 part) */
/* IL: R S WALLACE  6 859 */
```

```
OR (ORISPL=859  AND COMPRESS(BLRID)='6')
/* LA: COUGHLIN  5 1396 */
OR (ORISPL=1396 AND COMPRESS(BLRID)='5')
/* OH: POSTON  4 2844 */
OR (ORISPL=2844 AND COMPRESS(BLRID)='4')

        THEN DO;
        FLAG2 = 0;
        FLAG1 = 12.1;
        END;

/* if units identified as "hardwired" deletions */
if SEQ in (
/*Seq     ST      Plant Name      Blr     Gen             */
0020  /* AL      Future Fossil   **1     1               */
0036  /* AL      McIntosh CAES   **2     2               */
0043  /* AL      McWilliams      **CT1   CT1             */
0044  /* AL      McWilliams      **CT2   CT2             */
0045  /* AL      McWilliams      **CT3   CT3             */
0117  /* AR      NA1-7246        **1     1               */
0160  /* CA      El Centro       2       2               */
0188  /* CA      Harbor Gen Station      **10    10      */
0392  /* CO      Valmont 11      1                       */
0393  /* CO      Valmont 11      2                       */
0394  /* CO      Valmont 11      3                       */
0395  /* CO      Valmont 11      4                       */
0396  /* CO      Valmont 12      1                       */
0397  /* CO      Valmont 12      2                       */
0398  /* CO      Valmont 12      3                       */
0399  /* CO      Valmont 12      4                       */
0400  /* CO      Valmont 13      1                       */
0401  /* CO      Valmont 13      2                       */
0402  /* CO      Valmont 13      3                       */
0403  /* CO      Valmont 13      4                       */
0412  /* CO      Valmont 22      1                       */
0413  /* CO      Valmont 22      2                       */
0414  /* CO      Valmont 22      3                       */
0415  /* CO      Valmont 22      4                       */
0416  /* CO      Valmont 23      1                       */
0417  /* CO      Valmont 23      2                       */
0418  /* CO      Valmont 23      3                       */
0419  /* CO      Valmont 23      4                       */
0442  /* CT      South Meadow    11      5               */
0443  /* CT      South Meadow    11      6               */
0444  /* CT      South Meadow    12      5               */
0445  /* CT      South Meadow    12      6               */
0446  /* CT      South Meadow    13      5               */
0447  /* CT      South Meadow    13      6               */
0541  /* FL      G W Ivey        **22    22              */
0597  /* FL      Lauderdale      PFL4    ST4             */
0598  /* FL      Lauderdale      PFL5    ST5             */
0607  /* FL      Martin  **3ST   3ST                     */
0608  /* FL      Martin  **4ST   4ST                     */
0811  /* IL      Lakeside        GT1     GT1             */
0812  /* IL      Lakeside        GT2     GT2             */
1011  /* IN      NA1-7221        **2     2               */
1017  /* IN      NA1-7228        **4     4               */
1018  /* IN      NA1-7228        **5     5               */
1133  /* IA      NA1-7230        **1     1               */
1283  /* KS      Ripley  **2     2                       */
1284  /* KS      Ripley  **3     3                       */
1351  /* KY      J K Smith       1       1               */
1496  /* LA      R S Nelson      1       1               */
1497  /* LA      R S Nelson      2       2               */
1723  /* MI      Delray  11      14                      */
1724  /* MI      Delray  11      15                      */
1898  /* MN      Future Base     **1     1               */
2044  /* MS      Wright  W4      W1                      */
2045  /* MS      Wright  W4      W2                      */
2046  /* MS      Wright  W4      W3                      */
2047  /* MS      Wright  W4      W4                      */
2072  /* MO      Combustion Turbine 1    **NA7   NA7     */
2086  /* MO      Empire Energy Center    **3     3       */
2087  /* MO      Empire Energy Center    **4     4       */
2088  /* MO      Empire Energy Center    **NA2   NA2     */
2089  /* MO      Empire Eneyg Center     **NA3   NA3     */
2092  /* MO      Grand Avenue    **7     7               */
2093  /* MO      Grand Avenue    **9     9               */
2124  /* MO      Lake Road       **8     8               */
2200  /* NE      NA1-7019        **NA2   NA2             */
2217  /* NV      Clark   **9     9                       */
2218  /* NV      Clark   **10    10                      */
2255  /* NJ      Butler  **1     1                       */
2256  /* NJ      Butler  **3     3                       */
2257  /* NJ      Butler  **4     4                       */
2292  /* NJ      NA1-7139        **1     1               */
```

```
2293  /* NJ      NA2-7140        **1     1               */
2294  /* NJ      NA3-7141        **1     1               */
2295  /* NJ      NA3-7141        **2     2               */
2296  /* NJ      NA4-7142        **1     1               */
2297  /* NJ      NA5-7217        **1     1               */
2298  /* NJ      NA5-7217        **2     2               */
2299  /* NJ      NA6-7218        **1     1               */
2300  /* NJ      NA6-7218        **2     2               */
2331  /* NM      Escalante       **2     2               */
2340  /* NM      Maddox  **3     3                       */
2472  /* NY      Rochester 3     1       3               */
2473  /* NY      Rochester 3     1       6               */
2474  /* NY      Rochester 3     1       8               */
2475  /* NY      Rochester 3     1       9               */
2476  /* NY      Rochester 3     1       10              */
2477  /* NY      Rochester 3     2       3               */
2478  /* NY      Rochester 3     2       6               */
2479  /* NY      Rochester 3     2       8               */
2480  /* NY      Rochester 3     2       9               */
2481  /* NY      Rochester 3     2       10              */
2487  /* NY      Rochester 3     4       3               */
2488  /* NY      Rochester 3     4       6               */
2489  /* NY      Rochester 3     4       8               */
2490  /* NY      Rochester 3     4       9               */
2491  /* NY      Rochester 3     4       10              */
2621  /* ND      Dakotas **1     1                       */
2702  /* OH      Dover   **7     7                       */
2919  /* OK      Inola   **1     1                       */
3014  /* PA      Marcus Hook Refinery 1  GEN1            */
3038  /* PA      Richmond        63      9               */
3039  /* PA      Richmond        64      9               */
3048  /* PA      Southwark       11      1               */
3049  /* PA      Southwark       12      1               */
3050  /* PA      Southwark       21      2               */
3051  /* PA      Southwark       22      2               */
3073  /* PA      Trenton Cogen Project   **1     1       */
3107  /* SC      NA2-7107        **GT2   GT2             */
3108  /* SC      NA3-7108        **GT3   GT3             */
3125  /* SD      CT      **5     5                       */
3138  /* SD      Mobile  **2     2                       */
3204  /* TX      Concho  2       3                       */
3205  /* TX      Concho  2       4                       */
3206  /* TX      Concho  4       3                       */
3207  /* TX      Concho  4       4                       */
3208  /* TX      Concho  5       3                       */
3209  /* TX      Concho  5       4                       */
3210  /* TX      Concho  6       3                       */
3211  /* TX      Concho  6       4                       */
3220  /* TX      Deepwater       DWP1    1               */
3221  /* TX      Deepwater       DWP1    2               */
3222  /* TX      Deepwater       DWP1    3               */
3223  /* TX      Deepwater       DWP1    4               */
3224  /* TX      Deepwater       DWP1    6               */
3225  /* TX      Deepwater       DWP2    1               */
3226  /* TX      Deepwater       DWP2    2               */
3227  /* TX      Deepwater       DWP2    3               */
3228  /* TX      Deepwater       DWP2    4               */
3229  /* TX      Deepwater       DWP2    6               */
3230  /* TX      Deepwater       DWP3    1               */
3231  /* TX      Deepwater       DWP3    2               */
3232  /* TX      Deepwater       DWP3    3               */
3233  /* TX      Deepwater       DWP3    4               */
3234  /* TX      Deepwater       DWP3    6               */
3235  /* TX      Deepwater       DWP4    1               */
3236  /* TX      Deepwater       DWP4    2               */
3237  /* TX      Deepwater       DWP4    3               */
3238  /* TX      Deeepwater      DWP4    4               */
3239  /* TX      Deepwater       DWP4    6               */
3240  /* TX      Deepwater       DWP5    1               */
3241  /* TX      Deepwater       DWP5    2               */
3242  /* TX      Deepwater       DWP5    3               */
3243  /* TX      Deepwater       DWP5    4               */
3244  /* TX      Deepwater       DWP5    6               */
3245  /* TX      Deepwater       DWP6    1               */
3246  /* TX      Deepwater       DWP6    2               */
3247  /* TX      Deepwater       DWP6    3               */
3248  /* TX      Deepwater       DWP6    4               */
3249  /* TX      Deepwater       DWP6    6               */
3268  /* TX      GT98    **1     1                       */
3269  /* TX      GT98    **2     2                       */
3270  /* TX      GT99    **1     1                       */
3271  /* TX      GT99    **2     2                       */
3272  /* TX      GT99    **3     3                       */
3354  /* TX      NA1-7216        **1     1               */
3355  /* TX      NA1-7216        **2     2               */
3438  /* TX      San Miguel      **2     2               */
```

```
3463  /* TX      TNP One **3     3                       */
3464  /* TX      TNP One **4     4                       */
3507  /* UT      Bonanza **2     2                       */
3549  /* VA      Chesterfield    **8B    8B              */
3574  /* WA      Kettle Falls    1       1               */
3711  /* WI      Combustion Turbine      **1     1       */
3756  /* WI      Manitowoc       9       7               */
3762  /* WI      NA 7222 **1     1                       */
3770  /* WI      NA 2    **1     1                       */
) then do;
  FLAG2 = 0;
  FLAG1 = 12;
  if SEQ in (
  0392  /* CO      Valmont 11      1                       */
  0393  /* CO      Valmont 11      2                       */
  0394  /* CO      Valmont 11      3                       */
  0395  /* CO      Valmont 11      4                       */
  0396  /* CO      Valmont 12      1                       */
  0397  /* CO      Valmont 12      2                       */
  0398  /* CO      Valmont 12      3                       */
  0399  /* CO      Valmont 12      4                       */
  0400  /* CO      Valmont 13      1                       */
  0401  /* CO      Valmont 13      2                       */
  0402  /* CO      Valmont 13      3                       */
  0403  /* CO      Valmont 13      4                       */
  0412  /* CO      Valmont 22      1                       */
  0413  /* CO      Valmont 22      2                       */
  0414  /* CO      Valmont 22      3                       */
  0415  /* CO      Valmont 22      4                       */
  0416  /* CO      Valmont 23      1                       */
  0417  /* CO      Valmont 23      2                       */
  0418  /* CO      Valmont 23      3                       */
  0419  /* CO      Valmont 23      4                       */
  1283  /* KS      Ripley  **2     2                       */
  1284  /* KS      Ripley  **3     3                       */
  1723  /* MI      Delray  11      14                      */
  1724  /* MI      Delray  11      15                      */
  2044  /* MS      Wright  W4      W1                      */
  2045  /* MS      Wright  W4      W2                      */
  2046  /* MS      Wright  W4      W3                      */
  2047  /* MS      Wright  W4      W4                      */
  2472  /* NY      Rochester 3     1       3               */
  2473  /* NY      Rochester 3     1       6               */
  2474  /* NY      Rochester 3     1       8               */
  2475  /* NY      Rochester 3     1       9               */
  2476  /* NY      Rochester 3     1       10              */
  2477  /* NY      Rochester 3     2       3               */
  2478  /* NY      Rochester 3     2       6               */
  2479  /* NY      Rochester 3     2       8               */
  2480  /* NY      Rochester 3     2       9               */
  2481  /* NY      Rochester 3     2       10              */
  2487  /* NY      Rochester 3     4       3               */
  2488  /* NY      Rochester 3     4       6               */
  2489  /* NY      Rochester 3     4       8               */
  2490  /* NY      Rochester 3     4       9               */
  2491  /* NY      Rochester 3     4       10              */
  3038  /* PA      Richmond        63      9               */
  3039  /* PA      Richmond        64      9               */
  3048  /* PA      Southwark       11      1               */
  3049  /* PA      Southwark       12      1               */
  3050  /* PA      Southwark       21      2               */
  3051  /* PA      Southwark       22      2               */
  3204  /* TX      Concho  2       3                       */
  3205  /* TX      Concho  2       4                       */
  3206  /* TX      Concho  4       3                       */
  3207  /* TX      Concho  4       4                       */
  3208  /* TX      Concho  5       3                       */
  3209  /* TX      Concho  5       4                       */
  3210  /* TX      Concho  6       3                       */
  3211  /* TX      Concho  6       4                       */
  3220  /* TX      Deepwater       DWP1    1               */
  3221  /* TX      Deepwater       DWP1    2               */
  3222  /* TX      Deepwater       DWP1    3               */
  3223  /* TX      Deepwater       DWP1    4               */
  3224  /* TX      Deepwater       DWP1    6               */
  3225  /* TX      Deepwater       DWP2    1               */
  3226  /* TX      Deepwater       DWP2    2               */
  3227  /* TX      Deepwater       DWP2    3               */
  3228  /* TX      Deepwater       DWP2    4               */
  3229  /* TX      Deepwater       DWP2    6               */
  3230  /* TX      Deepwater       DWP3    1               */
  3231  /* TX      Deepwater       DWP3    2               */
  3232  /* TX      Deepwater       DWP3    3               */
  3233  /* TX      Deepwater       DWP3    4               */
  3234  /* TX      Deepwater       DWP3    6               */
  3235  /* TX      Deepwater       DWP4    1               */
```

```
  3236  /* TX      Deepwater       DWP4    2                */
  3237  /* TX      Deepwater       DWP4    3                */
  3238  /* TX      Deeepwater      DWP4    4                */
  3239  /* TX      Deepwater       DWP4    6                */
  3240  /* TX      Deepwater       DWP5    1                */
  3241  /* TX      Deepwater       DWP5    2                */
  3242  /* TX      Deepwater       DWP5    3                */
  3243  /* TX      Deepwater       DWP5    4                */
  3244  /* TX      Deepwater       DWP5    6                */
  3245  /* TX      Deepwater       DWP6    1                */
  3246  /* TX      Deepwater       DWP6    2                */
  3247  /* TX      Deepwater       DWP6    3                */
  3248  /* TX      Deepwater       DWP6    4                */
  3249  /* TX      Deepwater       DWP6    6                */
  ) then do;
    FLAG1    = 12.1;
  end;
end;
run;

/* run adjtot macro to check adjusted totals and fix, if needed */
%adjtot(phasei09,nadbmain.V21,50.000,.001,SEQ);
%adjtot(phasei10,nadbmain.V21,50.000,.001,SEQ);


/*************************************************/
/* Adjust TOTALBON, Total Bonus Allowances, to 530k */
/*************************************************/

PROC SUMMARY DATA=nadbmain.V21;
   VAR TOTALBON;
   ID MERGER;
   OUTPUT OUT=BONURSUM(KEEP=MERGER BONSUM) SUM=BONSUM;
RUN;

DATA nadbmain.V21;
   MERGE nadbmain.V21 BONURSUM;
   BY MERGER;
   IF BONSUM>530.000 THEN TOTBONRA = round((TOTALBON * 530 /
BONSUM),.001);
   ELSE TOTBONRA = TOTALBON;
RUN;

/* Check Bonus Total and Adjust if necessary */
%macro bonuschk;
data bonursum; set bonursum;
call symput('bontot',bonsum);
run;

%if &bontot>530.000 %then
        %adjtot(totbonra,nadbmain.V21,530.000,.001,SEQ);
%mend bonuschk;

%bonuschk;


/* Format for final output to dbase file */
DATA nadbmain.V21OUT(KEEP=SEQ STATNAM PNAME GENID BLRID UCODE ORISPL
UTILNAME
                     FLAG1 FLAG2 BONUS MERGER FL_RA10 FL_UN10
                     BONUS125 FL_RACH FL_UNRAC TOTALBON TOTBONRA
                     BASCR_09 BASREP09 FINBAS09 FINBAS10 TOT_09 TOT_10
                     BASAUCT CONSREN REPOWER AUCT_09 AUCT_10
                     PI50_09 PI50_10 BAS_UR10 BAS_UR09 BAS_RA09 BAS_RA10
                     PERM_11 PERM_01 PERM_02 PERM_03 PERM_04
                     UPERM_05 RPERM_05 UPERM_06 RPERM_06
                     PERM_07 PERM_09 MUN_PERM UPERM107 RPERM107
                     UPERM102 RPERM102 FL_40K2 TOTAL_09 TOTAL_10);

SET nadbmain.V21;
FORMAT  SEQ 4.0
  FLAG1 4.1
  FLAG2 5.2
  UCODE 5.0
  ORISPL PI50_09 PI50_10 4.0

  totalbon totbonra BASCR_09 BASREP09 CONSREN REPOWER AUCT_09 AUCT_10
  FINBAS09 FINBAS10 BASAUCT tot_09 tot_10 bas_ur09 bas_ur10
  bas_ra09 bas_ra10 5.0

  BONUS BONUS125 FL_RACH FL_UNRAC FL_RA10 FL_UN10
  PERM_11 PERM_01 PERM_02 PERM_03 PERM_04 UPERM_05 RPERM_05
  UPERM_06 RPERM_06 PERM_07 PERM_09 MUN_PERM UPERM107 RPERM107
  UPERM102 RPERM102 FL_40K2 TOTAL_09 TOTAL_10  16.5;

LABEL
```

```
  FLAG1='Provision ID Flag 1'
  FLAG2='Provision ID Flag 2'
  BONUS='Regular Bonus'
  BONUS125='Clean States Bonus'
  TOTALBON='Total Unadjusted Bonus'
  TOTBONRA='Total Adjusted Bonus'
  FL_RACH='405(i)(1) Adjusted 2000-09'
  FL_UNRAC='405(i)(1) Unadjusted 2000-09'
  FL_RA10='405(i)(1) Adjusted 2010 and Later'
  FL_UN10='405(i)(1) Unadjusted 2010 and Later'
  BASCR_09='Basic, Adj for Con/Ren 2000-09'
  BASREP09='Basic, Adj for Repowering 2000-09'
  FINBAS09='Fin. Basic 2000-09 (w/ Con/Ren/Rep)'
  FINBAS10='Fin. Basic 2010 and Later'
  TOT_09='Total 2000-2009'
  TOT_10='Total 2010 and Later'
  CONSREN='Cons/Renewable Reserve Deduction'
  REPOWER='Repowering Set-Aside'
  BASAUCT='Basic Adj for Auct/Sale, 2000-09'
  AUCT_09='Auct/Sale Reserve, 2000-2009'
  AUCT_10='Auct/Sale Reserve, 2010 and Later'
  PI50_09='405(a)(3) Adjusted, 2000-2009'
  PI50_10='405(a)(3) Adjusted, 2010 and Later'
  BAS_UR09='Basic Unadjusted 2000-2009'
  BAS_UR10='Basic Unadjusted 2010 and Later'
  BAS_RA09='Basic Adjusted 2000-2009'
  BAS_RA10='Basic Adjusted 2010 and Later'
  PERM_11='405d4 1981-85 NSPS: INCREMENT'
  PERM_01='405c5 BIGUHARD: 2000-09 INCREMENT'
  PERM_02='405b3 Attain/Lignite INCREMENT'
  PERM_03='405d5 CCTGRNT INCREMENT'
  PERM_04='405g5 INCREMENT'
  UPERM_05='405i2 Unratcheted INCREMENT'
  RPERM_05='405i2 Ratcheted INCREMENT'
  UPERM_06='405b4 Unratcheted INCREMENT'
  RPERM_06='405b4 Ratcheted INCREMENT'
  PERM_07='405c3 INCREMENT'
  PERM_09='404h INCREMENT'
  MUN_PERM='405j Municipals INCREMENT'
  UPERM107='405f2 Utility Unratcheted TOTAL'
  RPERM107='405f2 Utility Ratcheted INCREMENT'
  UPERM102='405f2 St Auth Unratcheted TOTAL'
  RPERM102='405f2 St Auth Ratcheted INCREMENT'
  FL_40K2='405d5 CCTGRNT Florida Increment'
  total_09='*** DO NOT USE ***'
  total_10='*** DO NOT USE ***'
   ;
BONUS=BONUS*1000;
BONUS125=BONUS125*1000;
BAS_UR09 = BASIC_09 * 1000;
BAS_UR10 = BASIC_10 * 1000;
PI50_09=PHASEI09*1000;
PI50_10=PHASEI10*1000;
FL_RACH=S405I1_P*1000;
FL_UNRAC=S405I1*1000;
FL_RA10=S405I1_F*1000;
FL_UN10=S405I1_1*1000;
BAS_RA09=BAS89_09*1000;
BAS_RA10=BAS89_10*1000;
TOTALBON=TOTALBON*1000;
TOTBONRA=TOTBONRA*1000;
TOTAL_09=TOTAL_09*1000;
TOTAL_10=TOTAL_10*1000;

CONSREN=round(BAS_RA09*30000/8900000,1);
REPOWER=round(BAS_RA09*2713/8900000,1);
AUCT_09=round(BAS_RA09*250000/8900000,1);
AUCT_10=round(BAS_RA10*250000/8900000,1);

BASCR_09=BAS_RA09-CONSREN;
BASREP09=BAS_RA09-REPOWER;
BASAUCT=BAS_RA09-AUCT_09;
FINBAS09=BAS_RA09-CONSREN-REPOWER-AUCT_09;
FINBAS10=BAS_RA10-AUCT_10;
TOT_09=FINBAS09+TOTBONRA+PI50_09;
TOT_10=FINBAS10+PI50_10;

MERGER=1;

PERM_11   = PERM_11  * 1000;
PERM_01   = PERM_01  * 1000;
PERM_02   = PERM_02  * 1000;
PERM_03   = PERM_03  * 1000;
PERM_04   = PERM_04  * 1000;
UPERM_05  = UPERM_05 * 1000;
RPERM_05  = RPERM_05 * 1000;
```

```
UPERM_06  = UPERM_06 * 1000;
RPERM_06  = RPERM_06 * 1000;
PERM_07   = PERM_07  * 1000;
PERM_09   = PERM_09  * 1000;
MUN_PERM  = MUN_PERM * 1000;
UPERM107  = UPERM107 * 1000;
RPERM107  = RPERM107 * 1000;
UPERM102  = UPERM102 * 1000;
RPERM102  = RPERM102 * 1000;
FL_40K2   = FL_40K2  * 1000;
RUN;


/* run adjtot macro to check adjusted totals and fix, if needed */
%adjtot(consren,nadbmain.V21out,30000,1,SEQ);
%adjtot(repower,nadbmain.V21out,2713,1,SEQ);
%adjtot(auct_09,nadbmain.V21out,250000,1,SEQ);
%adjtot(auct_10,nadbmain.V21out,250000,1,SEQ);
/* reset totals variables */
data nadbmain.V21out;
   set nadbmain.V21out;
   BASCR_09=BAS_RA09-CONSREN;
   BASREP09=BAS_RA09-REPOWER;
   BASAUCT=BAS_RA09-AUCT_09;
   FINBAS09=BAS_RA09-CONSREN-REPOWER-AUCT_09;
   FINBAS10=BAS_RA10-AUCT_10;
   TOT_09=FINBAS09+TOTBONRA+PI50_09;
   TOT_10=FINBAS10+PI50_10;
   run;

/* Sort to Create Output Summary Datasets */
PROC SORT DATA=nadbmain.V21OUT;
  BY STATNAM ORISPL BLRID GENID;
RUN;

PROC MEANS DATA=nadbmain.V21OUT N SUM mean max min;
  TITLE3 'Statistics for Important Variables, Final Allowances -- ALNEWFIN';
RUN;

/* Report sums for Phase I 50 K Calculations */
title3 'Sum of Basic Allowances for Phase I 50 K Units (Thousands)';
proc print data=ph1sum label;
label B_09='Unadjusted Basic Allowances, 2000-09'
      B_10='Unadjusted Basic Allowances, 2010 and Later';
run;

/* Create State Totals */
PROC SUMMARY DATA=nadbmain.V21OUT;
   BY STATNAM;
   VAR BONUS BONUS125 FL_RACH FL_UNRAC FL_RA10 FL_UN10 TOTALBON
TOTBONRA
     BASCR_09 BASREP09 CONSREN REPOWER AUCT_09 AUCT_10 FINBAS09
FINBAS10
     BASAUCT TOT_09 TOT_10 PI50_09 PI50_10 BAS_UR10 BAS_UR09 BAS_RA09
BAS_RA10
     PERM_11 PERM_01 PERM_02 PERM_03 PERM_04
     UPERM_05 RPERM_05 UPERM_06 RPERM_06
     PERM_07 PERM_09 MUN_PERM UPERM107 RPERM107
     UPERM102 RPERM102 FL_40K2 TOTAL_09 TOTAL_10;
   OUTPUT OUT=nadbmain.V21STATE SUM=;
RUN;

DATA nadbmain.V21state;
SET nadbmain.V21state;
FORMAT
     BONUS BONUS125 FL_RACH FL_UNRAC FL_RA10 FL_UN10 TOTALBON
TOTBONRA
     BASCR_09 BASREP09 CONSREN REPOWER AUCT_09 AUCT_10 FINBAS09
FINBAS10
     BASAUCT TOT_09 TOT_10 PI50_09 PI50_10 BAS_UR10 BAS_UR09 BAS_RA09
BAS_RA10
     PERM_11 PERM_01 PERM_02 PERM_03 PERM_04
     UPERM_05 RPERM_05 UPERM_06 RPERM_06
     PERM_07 PERM_09 MUN_PERM UPERM107 RPERM107
     UPERM102 RPERM102 FL_40K2 TOTAL_09 TOTAL_10 7.0;
RUN;

/* Create Boiler Level Totals */
PROC SUMMARY DATA=nadbmain.V21OUT;
  ID PNAME UCODE UTILNAME;
  BY STATNAM ORISPL BLRID;
  VAR BONUS BONUS125 FL_RACH FL_UNRAC FL_RA10 FL_UN10 TOTALBON
TOTBONRA
     BASCR_09 BASREP09 CONSREN REPOWER AUCT_09 AUCT_10 FINBAS09
FINBAS10
     BASAUCT TOT_09 TOT_10 PI50_09 PI50_10 BAS_UR10 BAS_UR09 BAS_RA09
```

```
BAS_RA10
     PERM_11 PERM_01 PERM_02 PERM_03 PERM_04
     UPERM_05 RPERM_05 UPERM_06 RPERM_06
     PERM_07 PERM_09 MUN_PERM UPERM107 RPERM107
     UPERM102 RPERM102 FL_40K2 TOTAL_09 TOTAL_10;
   OUTPUT OUT=nadbmain.V21BLR SUM=;
RUN;

/* Sort Datasets for Final Output */
PROC SORT DATA=nadbmain.V21OUT;
  BY SEQ;
RUN;

PROC SORT DATA=nadbmain.V21BLR;
  BY STATNAM PNAME BLRID;
RUN;

/* Create Transport Dataset for PC Processing */
* libname transt xport  'e:\phase2\nadb\state.dat';
* libname tranblr xport  'e:\phase2\nadb\boiler.dat';
* libname tranbg xport  'e:\phase2\nadb\allow.dat';

* proc copy in=work out=transt;
* select nadbmain.V21state;
* run;

* proc copy in=work out=tranblr;
* select nadbmain.V21blr;
* run;

* proc copy in=work out=tranbg;
* select nadbmain.V21out;
* run;

data nadbmain.V21outd;
set nadbmain.V21out;
keep
SEQ STATNAM PNAME BLRID GENID
UTILNAME UCODE ORISPL BAS_UR09 BAS_RA09
CONSREN REPOWER AUCT_09 FINBAS09 TOTALBON
PI50_09 TOT_09 FLAG1 FLAG2 BAS_UR10
BAS_RA10 AUCT_10 FINBAS10 PI50_10 TOT_10
;
run;

data nadbmain.V21blrd;
set nadbmain.V21blr;
keep
STATNAM PNAME BLRID UTILNAME UCODE
ORISPL FLAG1 BAS_UR09 BAS_RA09 CONSREN REPOWER
AUCT_09 FINBAS09 TOTALBON PI50_09 TOT_09
BAS_UR10 BAS_RA10 AUCT_10 FINBAS10 PI50_10
TOT_10
;
run;

data nadbmain.V21stad; set nadbmain.V21state; run;

proc dbf db3=v22blrdt data=nadbmain.V21blrd;
format
STATNAM    $20.  PNAME      $20.  BLRID      $6.   UTILNAME   $30.
UCODE       5.   ORISPL      4.   FLAG1       5.   BAS_UR09    5.   BAS_RA09    5.
CONSREN     4.   REPOWER     4.   AUCT_09     4.   FINBAS09    5.
TOTALBON    5.   PI50_09     4.   TOT_09      6.   BAS_UR10    5.
BAS_RA10    5.   AUCT_10     4.   FINBAS10    5.   PI50_10     4.
TOT_10      5.
;
run;

proc dbf db3=v22outdt data=nadbmain.V21outd;
format
SEQ         4.  STATNAM    $20. PNAME      $20. BLRID      $6.
GENID      $4.  UTILNAME   $30. UCODE       5.  ORISPL      4.
BAS_UR09    5.  BAS_RA09    5.  CONSREN     4.  REPOWER     4.
AUCT_09     4.  FINBAS09    5.  TOTALBON    5.  PI50_09     4.
TOT_09      6.  FLAG1       4.1 FLAG2       5.2 BAS_UR10    5.
BAS_RA10    5.  AUCT_10     4.  FINBAS10    5.  PI50_10     4.
TOT_10      5.
;
run;

proc dbf db3=v22stadt data=nadbmain.V21stad;
run;

data nadbmain.v22out;
set nadbmain.V21out;
```

```
keep
SEQ
STATNAM
PNAME
BLRID
GENID
UTILNAME
UCODE
ORISPL
FLAG1
FLAG2
BONUS
BONUS125
TOTALBON
PERM_11
PERM_01
PERM_02
PERM_03
PERM_04
UPERM_05
RPERM_05
UPERM_06
RPERM_06
PERM_07
PERM_09
MUN_PERM
UPERM107
RPERM107
UPERM102
RPERM102
FL_40K2
MERGER
TOTBONRA
PI50_09
PI50_10
BASCR_09
FINBAS09
FINBAS10
TOT_09
TOT_10
BAS_UR09
BAS_UR10
BAS_RA09
BAS_RA10
FL_RACH
FL_UNRAC
FL_RA10
FL_UN10
BASREP09
CONSREN
REPOWER
AUCT_09
AUCT_10
BASAUCT
;
run;

proc dbf db3=v22out data=nadbmain.v22out;
format
SEQ         4.  STATNAM    $20. PNAME      $20. BLRID      $6.
GENID      $4.  UTILNAME   $30. UCODE       5.  ORISPL      4.
BAS_UR09    5.  BAS_RA09    5.  CONSREN     4.  REPOWER     4.
AUCT_09     4.  FINBAS09    5.  TOTALBON    5.  PI50_09     4.
TOT_09      6.  FLAG1       4.1 FLAG2       5.2 BAS_UR10    5.
BAS_RA10    5.  AUCT_10     4.  FINBAS10    5.  PI50_10     4.
TOT_10      5.
;
run;
```

Programmer's Notes

This section describes some of the calculation methods used to calculate Phase II allowance allocations for this report.

Adjustment Method for Rounding to Exact Totals

In a number of cases, provisions of §405 or §406 require that exact totals of a given set of allowances be reached by adjusting or pro-rating allowances to meet some statutory total. For example, §403(a)(1) specifies that no more than 8.9 million adjusted basic allowances are to be allocated in any year. In order to match these totals, the allowance allocation program includes an adjustment algorithm which implements the rounding procedure as specified in the final rule. In short, if the total initially calculated by the program for one of these variables (sets of allowances) does not exactly match the number specified in the statute, the algorithm sorts all B/Gs by the variable being totalled, largest to smallest. Then, beginning with the B/G having the largest number of allowances of the type being adjusted, the algorithm subtracts or adds one allowance to each B/G's allocation, as needed, until the desired total is reached exactly.

The table below shows which statutory totals were achieved by this process.

PROVISION	STATUTORY MAXIMUM	SAS PROGRAM VARIABLE	COMMENTS
§404(g)	30,000	CONSREN	Deduction for Conservation and Renewable Energy Reserve
§403(a)(1)	8,900,000	BAS 89_09	Basic Allowances, 2000-2009
		BAS89_10	Basic Allowances, 2010 and thereafter
§405(a)(2)	2,713	REPOWER	Deduction for qualifying CCT repowering
§403(a)(3)	50,000	PHASEI09	Additional 50K for Phase I units, 2000-2009
		PHASEI10	Additional 50K for Phase I units, 2010 and thereafter
§405(b)(4)	5,000	RPERM_06	Additional allowances for coal conversion units
§405(f)(2)	7,000	RPERM107	Additional allowances for eligible utility
§405(f)(2)	2,000	RPERM102	Additional allowances for eligible State Authority
§405(i)(1)	40,000	S405I1_P	Growth State allowances for 2000-2009
		S405I1_F	Growth State allowances for 2010 and thereafter
§405(i)(2)	5,000	RPERM_05	Additional allowances for units with declining actual or allowable SO_2 emissions
§406	125,000	BONUS125	Clean States bonus allowances
§416(b)	250,000	AUCT_09	Deduction for special Allowance Reserve, 2000-2009
		AUCT_10	Deduction for special Allowance Reserve, 2010 and thereafter