



# Acid Rain Program

## Instructions for

## Thermal Energy Plan Form (40 CFR 74.47)

*An opt-in source and its replacement units may enter into a Thermal Energy Plan and transfer allowances from the opt-in source to each replacement unit based on the actual and documented replacement thermal energy. Thermal energy is defined in 40 CFR 72.2 as "the thermal output produced by a combustion source used directly as part of a manufacturing process but not used to produce electricity." The Thermal Energy Plan form is to be completed by the designated representatives of the opt-in source and of the replacement units participating in the plan. Each replacement unit must be an affected unit under the Acid Rain Program.*

Please type or print. Enter the opt-in source plant name and combustion source ID number from Step 1 in the boxes at the top of each page. The alternate designated representative may sign in lieu of the designated representative. For assistance, call the Acid Rain Hotline at (202) 233-9620.

### Part 1: Opt-In Source Information

- STEP 1** NADB is the National Allowance Data Base for the Acid Rain Program. To obtain the database on diskette, call the Acid Rain Hotline at (202) 233-9620. This data file is in dBase format for use on an IBM-compatible PC. It requires 2 megabytes of hard disk space. If the opt-in source does not have an ORIS code, use the code from the Department of Energy Form 867 or leave blank and a code will be assigned by EPA.
- The combustion source short name and the combustion source ID number are the name and ID number assigned by the operator to distinguish this combustion source from others at the facility.
- STEP 2** The effective period of the Thermal Energy Plan will run from the year entered in Step 2 through the last full calendar year for which the opt-in permit containing the plan is in effect.
- STEP 3** The expected annual reduction in thermal energy at the opt-in source includes all thermal energy flows used for any process or in any heating or cooling application, but does not include thermal energy used to produce electricity.
- STEP 4** Calculate the percentage of allowances to be deducted for reduced utilization using the formula shown.
- Estimate the annual utilization for the first year (listed in Step 2) that the Thermal Energy Plan will be in effect.
- The baseline utilization for the opt-in source is entered at Step 13(b) of the opt-in permit application.
- STEP 5** Multiply the percentage of allowances to be deducted for reduced utilization by the number of allowances allocated to the opt-in source for the current calendar year. The result is the total number of allowances to be deducted for reduced utilization. This number includes both the allowances that will be transferred to the replacement units and the allowances that will be surrendered to EPA.
- STEP 6** Subtract the total number of allowances to be deducted from the opt-in source for reduced utilization, calculated in Step 5, from the number of allowances allocated to the opt-in source for the current calendar year. The difference is the number of allowances to be retained by the opt-in source after the Thermal Energy Plan takes effect.
- STEP 7** Identify each replacement unit that will replace thermal energy at the opt-in source. For each replacement unit listed in Step 7, submit a completed Part 2 of the Thermal Energy Plan form. Enter the number of allowances that will be transferred to each replacement unit, as determined in Step R-8 of Part 2 of the Thermal Energy Plan form. Enter the total number of allowances to be awarded to the replacement units in the "Total" box below the table. The total number of allowances may not exceed the number of allowances to be deducted for reduced utilization as calculated in Step 5.
- STEP 8** Determine the number of allowances to be surrendered to EPA due to reduced utilization of the opt-in source by subtracting the total number of allowances in Step 7 from the result in Step 5.
- STEP 9** Complete and attach Part 2 of the Thermal Energy Plan form for each replacement unit listed in Step 7.

Indicate the number of replacement units for which Part 2 forms are attached.

- STEP 10 If the opt-in source will be permanently retired as of the effective date of the Thermal Energy Plan, as listed in Step 2, the opt-in source may apply to become exempt from the Acid Rain Program's monitoring requirements. If such an exemption is approved, the opt-in source will not be required to monitor its emissions upon retirement. Regardless, the opt-in source must continue to submit an annual compliance certification report, as required in 40 CFR 74.7(d). For more information, refer to 40 CFR 75.67 and 74.47(a)(5).
- STEP 11 The designated representative of the opt-in source must read the special provisions and certifications, and sign and date Part 1.

## Part 2: Replacement Unit Information

- STEP R-1 NADB is the National Allowance Data Base for the Acid Rain Program. To obtain the database on diskette, call the Acid Rain Hotline at (202) 233-9620. This data file is in dBase format for use on an IBM-compatible PC. It requires 2 megabytes of hard disk space. If the replacement unit does not have an ORIS code, use the code from the Department of Energy Form 867 or leave blank and a code will be assigned by EPA.
- STEP R-2 Enter the information identifying the opt-in source from Step 1 of Part 1.
- STEP R-3 For each type of fuel used at the replacement unit, estimate the percentage of the total fuel input that the fuel constitutes. The percentages must total 100%.
- STEP R-4 Enter the most stringent allowable SO<sub>2</sub> emissions rate applicable to the replacement unit for all fuels used by the replacement unit for the year that the Thermal Energy Plan will take effect, as listed in Step 2 of Part 1. If that limit is not measured in lbs/mmBtu, use the appropriate conversion factor from the table below.

Unit of Measurement	Bituminous Coal	Subbituminous Coal	Lignite Coal	Oil
lbs Sulfur/mmBtu	2.0	2.0	2.0	2.0
% Sulfur in fuel	1.66	2.22	2.86	1.07
ppm SO <sub>2</sub>	0.00287	0.00384	--	0.00167
ppm Sulfur in fuel	--	--	--	0.00334
tons SO <sub>2</sub> /hour	$2 \times 8760 / (\text{annual fuel consumption for specified year}^1 \times 10^3)$			
lbs SO <sub>2</sub> /hour	$8760 / (\text{annual fuel consumption for specified year}^1 \times 10^6)$			

<sup>1</sup> Annual fuel consumption is defined in 40 CFR 74.20; specified calendar year is defined in 40 CFR 74.23(a)(2)

- STEP R-5 Provide the effective date and regulatory citation for the SO<sub>2</sub> emissions limit in Step R-4, and identify the permitting authority under which the emissions limit was established or through which it is enforced.
- STEP R-6 The estimated total thermal energy produced at the replacement unit for the year preceding replacement includes all energy flows used for any process or in any heating or cooling application.
- STEP R-7 The estimated total thermal energy produced at the replacement unit after the Thermal Energy Plan takes effect includes all energy flows used for any process or in any heating or cooling application.
- STEP R-8 Estimate the total thermal energy at the replacement unit that will be used to replace thermal energy at the opt-in source. This amount is called the "Qualifying Thermal Energy."  
Divide the qualifying thermal energy by the appropriate efficiency constant.

**Boilers: 0.85**  
**Cogenerators: 0.80**

The result is the fuel associated with qualifying thermal energy, in mmBtu. Multiply that by the SO<sub>2</sub> emissions rate listed in Step R-4, then divide the product by 2000. The result is the number of

allowances to be transferred to this replacement unit. This number should also be entered at Step 7 of Part 1 of the Thermal Energy Plan form.

STEP R-9 The designated representative of each replacement unit must read the special provisions and certifications and sign and date Part 2. The designated representative of the opt-in source must sign and date the Part 2 form submitted by each replacement unit listed in Step 7 of Part 1.

## Submission Instructions

The designated representative of the opt-in source is responsible for collecting a completed Part 2 from each replacement unit participating in the Thermal Energy Plan. The Thermal Energy Plan form must be submitted in its entirety; all completed Part 2 forms must be submitted along with the completed Part 1 form. The designated representative of the opt-in source should mail one original of Part 1 and one original of each completed Part 2, plus 3 photocopies of the entire submission, to the permitting authority responsible for issuing the opt-in permit to the source.

### Paperwork Burden Estimate

The burden on the public for collecting and reporting of information under this request is estimated at 70 hours per response. Send comments regarding this collection of information, including suggestions for reducing the burden, to: Chief, Information Policy Branch (2136), Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460; and to: Paperwork Reduction Project (OMB#2060-0258), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. **Do not send this form to these addresses; see the submission instructions above.**



# Thermal Energy Plan Form

## Part 1: Opt-In Source Information

For more information, see instructions and refer to 40 CFR 74.47

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This submission is  New  Revised

**STEP 1**  
Identify the opt-in source by plant name, State, ORIS code from NADB (if applicable), combustion source short name, and combustion source ID number. Enter the ATS account number for the opt-in source.

Plant Name	State	ORIS Code
Combustion Source Short Name	Combustion Source ID#	
ATS Account #		

**STEP 2**  
Enter the effective date of the thermal energy plan.

This plan will take effect on January ----->

  
year

**STEP 3**  
Enter the expected reduction in total annual thermal energy output at the opt-in source.

Reduction in total annual thermal energy output ----->

  
mmBtu

**STEP 4**  
Estimate the percentage of allowances to be deducted for reduced utilization.

Formula: 
$$\left( P = 1 - \frac{A}{B} \right) B$$

A = Annual Utilization After Thermal Energy Plan Takes Effect ----->

  
mmBtu

B = Baseline Utilization ----->

  
mmBtu

P = Percentage to be Deducted ----->

  
%

**STEP 5**  
Calculate the total number of allowances to be deducted for reduced utilization.

Percentage (Step 4)

  
%

X

Allowances Allocated for Current Calendar Year

  
allowances

=

Total Allowances to be Deducted for Reduced Utilization

  
allowances

Plant Name (from Step 1)

Combustion Source ID#

**STEP 6**  
Calculate the number of allowances to be retained by the opt-in source.

Allowances Allocated for Current Calendar Year		Total Allowances to be Deducted for Reduced Utilization (Step 5)		Number of Allowances Retained by Opt-in Source
<input type="text"/> allowances	-	<input type="text"/> allowances	=	<input type="text"/> allowances

**STEP 7**  
Identify the replacement units that will replace thermal energy at the opt-in source. Enter the number of allowances that the opt-in source will transfer to each replacement unit (from Step R-7 of Part 2).

	Replacement Unit Plant Name	State	Boiler ID#	Number of Allowances
(a)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> allowances
(b)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> allowances
(c)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> allowances
(d)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> allowances

Total:   
allowances

**STEP 8**  
Calculate the number of allowances to be surrendered to EPA.

Total Allowances to be Deducted for Reduced		Total Allowances to be Transferred to Replacement		Allowances to be Surrendered
<input type="text"/> allowances	-	<input type="text"/> allowances	=	<input type="text"/> allowances

**STEP 9**  
For each replacement unit listed in Step 7, complete and attach Part 2 of this form. Enter the number of replacement units.

Number of replacement units ----->   
units

**STEP 10**  
Check the box if the opt-in source will be permanently retired as of the effective date of this Thermal Energy Plan, as listed in Step 2.

I request exemption from the requirements of Part 75 in accordance with 40 CFR 75.67.  
I certify that the opt-in source is or will be, as applicable, permanently retired on the date specified in this plan and will not emit any sulfur dioxide or nitrogen oxide after such date.

<b>Plant Name (from Step 1)</b>
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<b>Combustion Source ID#</b>
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**STEP 11**  
**Read the special provisions and certifications, and sign and date.**

**Special Provisions**

The designated representative of each replacement unit shall maintain and make available to the Administrator, at the Administrator's request, copies of documents demonstrating that the replacement unit is replacing the thermal energy of the opt-in source.

**Certifications**

I certify that each replacement unit listed in the Thermal Energy Plan has entered into a legally binding steam sales agreement to provide the thermal energy, as calculated in accordance with 40 CFR 74.47(a)(3)(xi), that it is replacing for the opt-in source.

I am authorized to make this submission on behalf of the owners and operators of the combustion sources or opt-in source for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.




# Thermal Energy Plan Form

## Part 2: Replacement Unit Information

For more information, see instructions and refer to 40 CFR 74.47

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This submission is  New  Revised

**STEP R-1**  
Identify the replacement unit by plant name, State, boiler ID number from NADB (if applicable), and ATS account number.

Replacement Unit Plant Name	State	Boiler ID#
ATS Account #		

**STEP R-2**  
Identify the opt-in combustion source by name, State, ID number, and ATS account number.

Opt-in Source Plant Name	State
ATS Account #	

**STEP R-3**  
Enter each type of fuel used at the replacement unit and the percentage of the total fuel input that the fuel constitutes.

Fuel Type	Percentage of Fuel Input
	%
	%
	%
	%

**STEP R-4**  
Enter the most stringent allowable SO<sub>2</sub> emissions rate that applies to the replacement unit for the year the Thermal Energy Plan will take effect, as listed in Step 2 of Part 1.

	Limit	Units of Measure	Fuel Type
Regulatory Limit			
Conversion Factor	X		
Converted Rate	=	lbs/mmBtu	

**STEP R-5**  
Identify the regulatory citation for the SO<sub>2</sub> emissions limit in Step R-4.

Effective Date	Regulatory Citation and Name of Permitting Authority

<b>Opt-in Source Plant Name (Step R-2)</b>
--------------------------------------------

**STEP R-6**  
Enter the estimated total thermal energy produced at the replacement unit for the year preceding replacement.

mmBtu
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**STEP R-7**  
Enter the estimated total thermal energy produced at the replacement unit after replacement.

mmBtu
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**STEP R-8**  
Calculate the allowances to be transferred to this replacement unit.

<b>Estimated Thermal Energy Replacing Thermal Energy at the Opt-in Source (Qualifying Thermal Energy)</b>		mmBtu
Efficiency Constant (Boilers: 0.80; Cogenerators: 0.85)	÷	
Fuel Associated with Qualifying Thermal Energy	=	mmBtu
Most Stringent SO <sub>2</sub> Emissions Rate (Step R-4)	X	lbs/mmBtu
	÷	2000
Allowances Transferred to this Replacement Unit	=	allowances

**STEP R-9**  
Read the special provisions and certifications, and sign and date.

**Special Provisions**

The designated representative of each replacement unit shall maintain and make available to the Administrator, at the Administrator's request, copies of documents demonstrating that the replacement unit is replacing the thermal energy of the opt-in source.

**Certifications**

I certify that the replacement unit and the opt-in source have entered into a legally binding steam sales under which the replacement unit will provide the thermal energy, as calculated in accordance with 40 CFR 74.47(a)(3)(xi), that the replacement unit is replacing for the opt-in source.

I am authorized to make this submission on behalf of the owners and operators of the affected unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

**Replacement Unit**

<b>Name</b>	

**Opt-in Source**

<b>Name</b>	