ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION

INSTRUCTIONS FOR COMPLETION OF MANUFACTURING OR PROCESSING OPERATION ADEM FORM 105

All applicable portions of this form should be completed by printing or typing. When any item is not applicable, the letters "NA" should be placed in the left margin beside the item. If the entire ADEM Form 105 is not applicable to your plant or facility, items 1 through 4 and the signature block should be completed and the words "NOT APPLICABLE" should be inserted beneath the signature block. At least one copy of this Form must be included in the group of initial permit applications for each facility or plant.

A separate copy of this Form is to be completed for each process, operation, machine or other source which has the potential for emission of contaminants to the atmosphere. Two or more pieces of equipment may be grouped as a single permit unit.

Items 1 & 2: Self-explanatory

Item 3: Identify the equipment as specific type; i.e., state "open hearth furnace", "electric arc furnace", etc., rather than the general term, "furnace". When two or more pieces of equipment are grouped as a unit, then the individual component of the unit must be identified. If the unit receives input material from, or provides input material to, another operation in your facility, the relationship should be made clear.

Item 4: Self-explanatory

Item 5: All raw materials input to the unit are to be identified, including solid fuels such as coal or coke. Exclude fuels for indirect heat exchangers; these are to be included on ADEM Form 104.

Item 6: Do not include those fuels used in indirect heat exchangers, for which ADEM Form 104 is provided.

Item 7: List all products, including intermediates used in other operations, and those which are not usable because they do not meet specifications.

Item 8: May be included as part of monitoring plan (if so, please indicate in space provided)

Item 9: If the answer to this item is "yes", the application will not be considered complete unless ADEM Form 110 is attached to Form 105.

Item 10: Each stack, vent, etc. which may emit air contaminants is to be separately identified with a number which is also used in Item 12. Stack height is that above ground level. UTM Coordinates, which means *Universal Transverse Mercator* Coordinates, for Alabama, N-S is between 3337.000km-3875.000km and E-W is between 362.000km-709.000km; Zone 16. Standard temperature is 70°F; standard pressure is 29.92 inches of Hg. Volume of gas discharged can be calculated with the gas velocity (FPS) and stack diameter (Ft). Emission points not associated with a stack or vent should be labeled as "fugitives" under stack height.

Item 11: Each air contaminant which is known or suspected to be emitted from each emission point is to be listed. The allowable emission specified in the Regulation must be stated. The Department must be assured that the owner or operator has a clear understanding of the allowable emission rate.

Item 12: If applications for more than one process are being submitted for a facility, the use of a single flow diagram for the entire facility is allowed. Use of one flow diagram is suggested for integrated operations. Points of air contaminant emissions are to be numbered to correspond with those points listed in Item 10.

Item 13: If the answer is no, then an ADEM Form 437 form should be attached.

Item 14: Self-explanatory

Item 15: This item is designed to determine if there are any fugitive dust problems associated with material handling of either the raw materials or finished products used in the process.

USE ADDITIONAL SHEETS IF NECESSARY

PERMIT APPLICATION
FOR
MANUFACTURING OR PROCESSING OPERATION

			-					-				

Do not write in this space

1. **Name of firm or organization:**_____

2. **Briefly describe the operation of this unit or process in your facility: (separate forms are to be submitted for each type of process or for multiple units of one process type. If the unit or process receives input material from, or provides input material to, another operation, please indicate the relationship between the operations.) An application should be completed for each alternative operating scenario.**

   Operating scenario number ____

3. **Type of unit or process (e.g., calcining kiln, cupola furnace):** _____

   Make: _____ **Model:** _____

   Rated process capacity (manufacturer's or designer's guaranteed maximum) in pounds/hour: _____

   Manufactured date: _____ **Proposed installation date:** _____

   Original installation date (if existing): _____

   Reconstruction or Modification date (if applicable): _____

4. **Normal operating schedule:**

   Hours per day: _____ **Days per week:** _____ **Weeks per year:** _____

   Peak production season (if any): _____

5. Materials (feed input) used in unit or process (include solid fuel materials used, if any):

Material	Process Rate Average (lb/hr)	Maximum (lb/hr)	Quantity tons/year

6. Total heat input capacity of process heating equipment (exclude fuel used by indirect heating equipment previously described on ADEM Form 104):_____MMBtu/hr

Fuel	Heat Content	Units	Max. % Sulfur	Max. % Ash	Grade No. [fuel oil only]	Supplier [used oil only]
Coal		Btu/lb				
Fuel Oil		Btu/gal				
Natural Gas		Btu/ft^3				
L. P. Gas		Btu/ft^3				
Wood		Btu/lb				
Other (specify)						

7. Products of process or unit:

Products	Quantity/year	Units of production

8. For each regulated pollutant, describe any limitations on source operation which affects emissions or any work practice standard (attach additional page if necessary):

9. Is there any emission control equipment on this emission source?

☑ Yes ☐ No (Where a control device exists, ADEM Form 110 must be completed and attached).

10. Air contaminant emission points: (Each point of emission should be listed separately and numbered so that it can be located on the attached flow diagram):

Emission Point	Stack							
	UTM Coordinates		Height Above Grade (Feet)	Base Elevation (Feet)	Diameter (Feet)	Gas Exit Velocity (Feet/Sec)	Volume of Gas Discharged (ACFM)	Exit Temperature (ºF)
	E-W (km)	N-S (km)						

* Std temperature is 68ºF - Std pressure is 29.92" in Hg.

11. **Air contaminants emitted: Basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form. Fugitive emissions must be included and calculations must be appended.**

Emission Point	Pollutants	Potential Emissions (lb/hr)	Potential Emissions (Tons/yr)	Basis of Calculation	Regulatory Emission Limit (lb/hr)	Regulatory Emission Limit (units of standard)

12. **Using a flow diagram:**

(1) **Illustrate input of raw materials,**

(2) **Label production processes, process fuel combustion, process equipment and air pollution control equipment,**

(3) **Illustrate locations of air contaminant release so that emission points under item 10 can be identified.**

☐ **(Check box if extra pages are attached)**
Process flow diagram

13. **Is this unit or process in compliance with all applicable air pollution rules and regulations?**

☐ **Yes** ☐ **No**

(if "no", a compliance schedule, ADEM Form 437 must be completed and attached.)

14. **Does the input material or product from this process or unit contain finely divided materials which could become airborne?**

☐ **Yes** ☐ **No**

15. **If "yes", is this material stored in piles or in some other facility as to make possible the creation of fugitive dust problems?**

☐ **Yes** ☐ **No**

List storage piles or other facility (if any):

Type of material	Particle size (diameter or screen size)	Pile size or facility (average tons)	Methods utilized to control fugitive emissions (wetted, covered, etc.)

Name of person preparing application: _____

Signature: _____ **Date:** _____