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# FMPC EMISSION CONTROL ACTION PROGRAM

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FMPC
Emission Control Action Program

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# FEED MATERIALS PRODUCTION CENTER

# EMISSION CONTROL ACTION PROGRAM

Issued: November 1, 1973

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M. S. Nelson, Manager

NATIONAL LEAD COMPANY OF OHIO
P. O. Box 39158
Cincinnati, Ohio 45239

Contract No. AT-(30-1)-1156

UNITED STATES ATOMIC ENERGY COMMISSION
OAK RIDGE OPERATIONS OFFICE



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NATIONAL LEAD COMPANY OF OHIO

January 14, 1974



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SUBJECT: FMPC EMISSION CONTROL ACTION PROGRAM

TO: Addressees

FROM: M. S. Nelson

The FMPC Emission Control Action Program is enclosed for your use and retention.

Division Directors should carefully review the actions which might be taken under the Program during an air pollution emergency episode and note the effects such actions would have upon operations under their control.

Possible displacement of personnel should be particularly examined and potential reassignment problems resolved to the degree possible. Maximum effort will be made to avoid loss of time by employees; however, because of the many variables such as the scope of the operational shutdown, the duration, and the timing of the shutdown, no precise personnel policy can be established as a guide. Each occasion will be judged and handled on the basis of the prevalent facts, and instructions will be issued by the Manager at the time.

M S Nelson

M. S. Nelson

AFP:wfk

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# FOREWORD

The FMPC Emission Control Action Program has been prepared in compliance with the State of Ohio Air Pollution Regulations and is in no manner related to any other "Emergency Plan" in effect at the Feed Materials Production Center.

The Program establishes those actions which can and will be taken by NLO at FMPC to reduce air pollution emissions, but any action under the Program would be taken only upon request of the responsible State of Ohio official and only when deemed necessary by such official to abate a specific stage of an officially declared "Air Pollution Emergency Episode."

The specific actions listed in the Program have been selected not only to meet the requirements of the Air Pollution Control Regulations but also to achieve maximum air pollutant emission abatement with a minimum of dislocation of operations and personnel. Also of importance is the establishment of an orderly, gradual shutdown procedure to be implemented if, as, and when the Episode escalated in severity.

In the event of an "Air Pollution Emergency Episode" supervisors will be advised by the Manager as to which actions listed in the FMPC Emission Control Action Program should be taken and at what time. No unilateral actions are to be instituted by supervisors.

NLO can be requested to take other actions beyond those delineated in the FMPC Emission Control Action Program if such actions are deemed necessary to counter an Air Pollution Emergency Episode. Such actions could include the cessation of all contract construction work, the prohibition of the use of motor vehicles, and even the closing of offices. Such far-ranging restrictions have not been included in the FMPC Program and it is anticipated that such requests can be honored and initiated by Managerial action taken with full recognition of all problems existent at the time of the request.

Portions of Section 2.3, "FMPC Emission Reduction Actions," shown in quotation marks under "Objective," are direct quotations from the State of Ohio Air Pollution Regulations, and are inserted for comparative purposes. Classification and description of "Facilities" also is comparable to the State of Ohio Air Pollution Regulations.

AIR POLLUTION EMERGENCY EPISODE
FMPC EMISSION CONTROL ACTION PROGRAM



## 1.0 REGULATORY BACKGROUND

Sections AP-11-01 through AP-11-04 of the Air Pollution Regulations of the State of Ohio were adopted as "Regulations For Prevention of Air Pollution Emergency Episodes." These regulations have been

> "...designed to prevent the excessive buildup of air pollutants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these pollutants on the health of persons." (AP-11-01 "Air Pollution Emergency")

### 1.1 Episode Criteria

Criteria have been established (AP-11-02) as to conditions justifying the proclamation of an air pollution emergency episode by the State of Ohio EPA. Four stages or degrees of severity have been selected, to wit:

a. "AIR POLLUTION FORECAST": An internal watch shall be actuated by a National Weather Service advisory that an "Atmospheric Stagnation Advisory is in effect" or by the equivalent local forecast of a stagnant atmospheric condition.

b. "ALERT": The ALERT level is that concentration of pollutants at which first stage control actions are to begin. An ALERT will be declared when any one of certain preset levels of pollutant concentration is reached at any monitoring site and meteorological conditions are such the pollutant concentrations can be expected to remain above the preset levels for twelve (12) or more hours or increase unless control actions are taken.

c. "WARNING": The WARNING level indicates that air quality is continuing to degrade and that additional control measures are necessary. A WARNING will be declared when any one of certain preset levels (increased above the ALERT level) is reached at any monitoring site and such pollutant concentrations can be expected to remain above the preset levels or increase unless control actions are taken.

d. "EMERGENCY": The EMERGENCY level indicates that air quality is continuing to degrade to a level that should never be reached and that the most stringent control actions are necessary. Again, levels of air pollutant concentration have been established meriting the declaration of an "EMERGENCY."

Once declared, any status reached by application of these criteria will remain in effect until the criteria for that level are no longer met. At such time, the next lower status will be assumed.

1.2 Episode Control Actions

Equivalent concentrations of each of the air contaminants for which air quality standards have been adopted (particulates, $SO_2$, CO, Oxidants, and $NO_2$) have been established for the ALERT, WARNING, and EMERGENCY levels. The Governor of the State of Ohio, the Director of the Ohio EPA or any official to whom the power is delegated can declare the existence of the suitable ALERT, WARNING, or EMERGENCY at any time any one or more of these preset pollutant concentrations is exceeded. At the same time the official can order the performance of whatever actions are suitable for the reduction of the pollutant causing the problem, consistent with the emission reduction objectives for the pollutant or pollutants as stated in AP-11-04, Tables 1 - 5.

The stringency of the action taken is of course proportionate to the severity of the pollutant concentration, ranging from orders stopping open burning and restricting hours of operation of incinerators, to directives closing schools, business offices, banks, amusements, etc., and prohibiting private and commercial use of motor vehicles.

1.3 Emission Control Action Programs

One of the major actions which can be taken during an Air Pollution Emergency Episode is an order for the implementation of Emission Control Action Programs by all air pollutant sources which under AP-11-03 are required to have such Programs.

AP-11-03:

Any person responsible for the operation of a source of air contaminant which emits 0.25 tons per day or more of air contaminants for which air quality standards have been adopted shall prepare emission control action programs, consistent with good industrial practice and safe operating procedures, for reducing the emission of air contaminants into the outdoor atmosphere during periods of an AIR POLLUTION ALERT, AIR POLLUTION WARNING, and AIR POLLUTION EMERGENCY. Emission control action programs shall be designed to reduce or eliminate emissions of air contaminants into the outdoor atmosphere in accordance with the objectives set forth in Tables 1 - 5 which are made a part of this Section.

FMPC qualifies as such a source of air contaminants.

It should be noted that because of the diversity of problems connected with an Air Pollution Episode, the mere declaration of the existence of an Air Pollution ALERT, WARNING, or EMERGENCY does not trigger action by any source as outlined in its Emission Control Action Program. No action whatsoever is taken by a source with respect to its Emission Control Action Program until such action is requested by the Air Pollution Control official, and then only those actions specifically requested are initiated. The actions requested and initiated must be directly related to the reduction of concentration of the specific air pollutant or pollutants which are the cause of Air Pollution Episode.

## 2.0 FMPC EMISSION CONTROL ACTION PROGRAM

### 2.1 Air Pollutants at FMPC

Of the five (5) air pollutants for which air quality standards have been adopted, particulates, $SO_2$, $NO_2$, and hydrocarbons are emitted in some degree from FMPC operations.

### 2.2 FMPC Sources of Air Pollutants

#### 2.2.1 Particulates:

(1) Steam generation plant

(2) Production operations:

Essentially all plants with dry or furnacing operations emit particulates to the extent dusts are passed through dust collectors, scrubbers, electrostatic precipitators and other dust control equipment.

(3) Incinerators, including the graphite burner and oil burner

#### 2.2.2 $SO_2$:

(1) Steam generation plant

#### 2.2.3 $NO_x$:

(1) Steam generation plant

(2) Refinery operations:

Continuous digestion, denitration and gulping, drum digestion, and metal dissolver

(3) Plant 1 - safe geometry digester

(4) Plant 6 - scrap pickling, chip pickling

(5) Pilot Plant - pickling or other operations in which $HNO_3$ is employed

2.2.4 Hydrocarbons:

(1) Plant 6 - degreasing

## 2.3 FMPC Emission Reduction Actions

Tables 1 - 5, AP-11-04 of the Air Pollution Control Regulations list Emission Reduction Objectives for each of the air pollutants separately. For clarity and comparative purposes therefore, FMPC Emission Reduction Actions have been listed for each of the air pollutants emitted by FMPC, and, under each pollutant, for the Alert, Warning, and Emergency episode levels. It must be recognized, however, that a particular air pollution episode may involve more than one type of air pollutant and therefore it may be necessary to take actions that are stated on more than one list to abate all pollutants connected with the air pollution episode.

### 2.3.1 FMPC Actions for Reduction of PARTICULATE Emissions

#### 2.3.1.1 General Actions
(Applicable to All Levels of Air Pollution Episodes)

| Objective: (As stated in Table 1, AP-11-04) | FMPC Responsive Action |
|---|---|
| 1. "Substantial reduction (of particulate emissions) by utilization of fuels having lowest available ash content." | Only coal is available as fuel, and since every effort has been expended to purchase coal with the lowest economical level of ash, it is not expected that any coal on site will be substantially better than any other shipment. |
| 2. "Maximum utilization of mid-day (12:00 Noon to 4:00 P.M.) atmospheric turbulence for boiler lancing and soot blowing." | In practice at FMPC, soot blowing is usually performed only once per week. Boiler lancing is very seldom required. Both practices are prohibited during air pollution episodes. |
| 3. "Maximum reduction by prevention of open burning." | Open burning is not permitted at any time. |

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#### 2.3.1.2 Air Pollution ALERT
(Times shown indicate time required for action taken to be effective in achieving air pollutant reduction.)

| Facility | Objective (Table 1, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating Plant | "Reduction of steam load demands consistent with continuing plant operations." | Ambient temperatures shall be reduced in offices, laboratories, and all other buildings to a maximum of 65°F during hours of operation and to 55°F when the buildings are unoccupied.<br>Time Required for Action: 1 hour<br>Reduction Accomplished: 5,000-7,500 lb. steam/hr. |
| Refuse Disposal Operations | "Substantial reduction by limiting burning of refuse in incinerators to the hours between 12:00 Noon and 4:00 P.M." | Incinerator operation shall be restricted to the hours between 12:00 Noon to 4:00 P.M.<br>Time Required: 1 hour for shutdown if incinerator is in operation.<br>Reduction: None |

2.3.1 FMPC Actions for Reduction of PARTICULATE Emissions (cont'd)

2.3.1.2 Air Pollution ALERT (cont'd)

| Facility | Objective (Table 1, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Manufacturing & processing industries | (a) "Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing or deferring production and allied operations." | Particulate losses through approximately 70 dust collector and scrubber systems serving the manufacturing processes have averaged in past years less than 200 lbs. per month. The greatest portion of this loss is the result of dust collector bag breakage and similar accidents, and represents losses incurred during the period between the time of occurrence of the accident and the collector shutdown. The remainder of the particulate emissions, which could be eliminated through shutdown of the process operations during an air pollution episode, is minor in quantity. The reduction of particulate emissions which can be realized through the shutdown of any certain group of operations thus is obviously quite small.<br><br>Selection of processes which will be shut down during the ALERT and WARNING episode levels is based upon consideration of dust collection efficiencies, past history of losses, and essentiality of the production operation.<br><br>(1) Cease all furnacing operations in the Pilot Plant and the Recovery Plant.<br>Time Required: 3 hours<br>Reduction: Minimal<br><br>(2) Stop any incidental or unusual unventilated transfer of materials which may cause particulate emissions.<br><br>(3) Subcontractor or Mechanical Department operations such as sand blasting, concrete breaking, grading or other dust emitting work shall be stopped.<br><br>(4) Vehicle travel on unpaved roads is prohibited, with exception of Security vehicles.<br><br>Time Required: (2), (3) and (4): 1 hour<br>Reduction: (2), (3) and (4) Total - Minimal |

2.3.1 FMPC Actions for Reduction of PARTICULATE Emissions (cont'd)

2.3.1.2 Air Pollution ALERT (cont'd)

| Facility | Objective (Table 1, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Manufacturing & processing industries (cont'd) | (b) "Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances." | (1) Oil Burner shall be shut down for duration of Episode.<br>Time Required: 1 hour<br>Reduction: Minimal |
| | | (2) Graphite Burner shall not be operated during an Episode. If in operation at the start of an Episode, feed shall be discontinued.<br>Time Required: 4 hours for complete burnout of contents<br>Reduction: Minimal |
| | c) "Reduction of heat load demands for processing consistent with continuing plant operations." | (1) Steam cleaning and other decontamination operations employing steam directly or for heating tanks, etc. shall cease. |
| | | (2) Direct use of steam for lances or agitation is prohibited.<br>Time Required: (1), (2) - 1 hour<br>Reduction: (1), (2) Total - 1,000 lb. steam/hour |
| | | (3) Drum washing operations shall be stopped for the duration of the Episode, unless and until the lack of drum washing threatens continuity of production operations.<br>Time Required: 1 hour<br>Reduction: 1,000 lb. steam/hour |
| | | (4) Shut down raffinate evaporator in the Refinery.<br>Time Required: 2 hours<br>Reduction: 30,000 lb. steam/hour |

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2.3.1 FMPC Actions for Reduction of PARTICULATE Emissions (cont'd)

2.3.1.3 Air Pollution WARNING

| Facility | Objective (Table 1, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | (a) "Reduction of steam loads consistent with continued plant operation." | Continue ALERT responsive action. |
| | (b) "Making ready for use a plan of action to be taken if an emergency develops." | Steam generating plant supervisors shall review operating requirements with the supervisors of the Refinery and any other plants with on stream equipment with large steam requirements and develop an orderly shutdown plan in the event of an "EMERGENCY" level episode, so as to assure a minimum of smoke emissions resulting from the drastically diminishing steam load. |
| Manufacturing & processing industries | (a) "Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations." | (1) Continue ALERT responsive actions.<br>(2) Packaging operations in Plant 4 shall be shut down.<br>Time Required: 1 hour<br>Reduction: Minimal<br>(3) Plant 5 Reduction Area operations shall be shut down in a stepwise manner, consuming all components prepared in the previous steps before stopping the next operation. Slag crushing and slag liner preparation shall be stopped immediately.<br>Time Required: 6 hours<br>Reduction: Minimal |
| | (b) "Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances." | Continue ALERT responsive actions. |
| | (c) "Reduction of heat load demands for processing consistent with continuing plant operations." | Continue ALERT responsive actions. |
| Refuse Disposal Operations | "Complete elimination of the use of incinerators." | Incinerator operation is prohibited. Utilities supervision shall make necessary arrangements with Transportation for storage of refuse for duration of WARNING level of episode.<br>Time Required: 1 hour for shutdown if incinerator is in operation<br>Reduction: Total elimination of incinerator particulate emissions |

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2.3.1 FMPC Actions for Reduction of PARTICULATE Emissions (cont'd)

2.3.1.4 Air Pollution EMERGENCY

| Facility | Objective (Table 1, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | (a) "Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage." | Reduce ambient temperatures in offices, laboratories, and Service Building to a maximum of 65°F when occupied. Reduce ambient temperatures in all buildings, when unoccupied, and production facilities to a maximum of 55°F.<br>Time Required: 1 hour<br>Reduction: 10,000 - 15,000 lb. steam/hour<br>See "Manufacturing industries" (c) for reductions in heat load demand from processes. |
| | (b) "Taking the action called for in the emergency plan." (Ref. [2.3.1.3(b)]) | Steam generating plant supervisors shall coordinate the orderly dropping of process steam loads in accordance with the plan previously established during the WARNING level of the episode. |
| Manufacturing & processing industries | (a) "Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment." | (1) Continue ALERT and WARNING responsive actions.<br>(2) Cease all operations in the Pilot Plant, Plant 1, Plant 4, Plant 6, Plant 9, and the Remelt Area of Plant 5. Halt dumping of concentrates in the Digestion Area. Shut down denitration area as pot cycles are completed, consistent with emptying of boildown and sparge tanks.<br>Time Required: 8 hours<br>Reduction: Max. 200 lbs. particulates/mo. |
| | (b) "Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors or malodorous substances." | Continue ALERT and WARNING responsive actions. |
| | (c) "Maximum reduction of heat load demands for processing." | (1) Continue ALERT and WARNING responsive actions.<br>(2) Shut down the UNH evaporator in the Refinery. Upon completion of processing of their contents reduce steam demand of boildown and sparge tanks in Denitration Area to minimum hold position. Shut down steam spargers in the Refinery Sump in the Sump area receiving tanks and reduce steam demand to the minimum required to avoid damage to equipment. Cease digestion operations upon completion of current C/D batch.<br>Time Required: 6 - 12 hours<br>Reduction: 45,000 lb. steam/hour |
| Refuse Disposal Operations | "Complete elimination of the use of incinerators." | Continue ALERT and WARNING responsive actions. |

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## 2.3.2 FMPC Actions for Reduction of $SO_2$ Emissions

### 2.3.2.1 General Actions
(Applicable to All Levels of Air Pollution Episodes)

| Objective: (Table 2, AP-11-04) | FMPC Responsive Action |
|---|---|
| 1. "Substantial reduction (of $SO_2$ emissions) by utilization of fuels having lowest available sulfur content." | Only coal is available as fuel, purchased with sulfur content specified at the lowest economical level, to meet $SO_2$ emission limitations as stated in AP-3-14(B), Table III. It is highly unlikely that any coal shipment will be substantially lower in sulfur content than other shipments and no segregation is planned or feasible. |
| 2. "Substantial reduction of air contaminants from manufacturing operations..." | Sulfur oxides are not emitted in measurable quantities from FMPC manufacturing processes. No action is required to meet this objective. |
| 3. "Maximum reduction of sulfur oxides from trade waste disposal processes..." | Sulfur oxides are not present in more than trace quantities in FMPC oil burning and/or graphite burning aerosols. No action is required. |

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### 2.3.2.2 Air Pollution ALERT
(Times shown indicate time required for action taken to be effective in achieving air pollutant reduction.)

| Facility | Objective (Table 2, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | "Reduction of steam load demands consistent with continuing plant operations." | Ambient temperatures shall be reduced in offices, laboratories, and all other buildings to a maximum of 65°F during hours of operation and to 55°F when the buildings are unoccupied.<br>Time Required: 1 hour<br>Reduction: 5,000 - 7,500 lb. steam/hour |
| Manufacturing and processing industries | "Reduction of heat load demands for processing consistent with continuing plant operations." | (1) Steam cleaning and other decontamination operations employing steam directly or for heating tanks, etc. shall cease.<br>(2) Direct use of steam for lances or agitation is prohibited.<br>Time Required: (1), (2) - 1 hour<br>Reduction: (1), (2) Total - 1,000 lb. steam/hour |

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2.3.2 FMPC Actions for Reduction of $SO_2$ Emissions (cont'd)

2.3.2.3 Air Pollution WARNING

| Facility | Objective (Table 2, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | (a) "Reduction of steam load demands consistent with continuing plant operations." | Continue ALERT responsive action. |
| | (b) "Making ready for use a plan of action to be taken if an emergency develops." | Steam generating plant supervisors shall review operating requirements with the supervisors of the Refinery and any other plants operating on stream equipment with large steam requirements and develop an orderly shutdown plan in the event of an "EMERGENCY" level episode, so as to assure a minimum of smoke emissions resulting from the drastically diminishing steam load. |
| Manufacturing & processing industries | "Reduction of heat load demands for processing consistent with continuing plant operations." | 1. Continue ALERT responsive action.<br>2. Drum washing operations shall be stopped for the duration of the Episode, unless and until the lack of drum washing threatens continuity of production operations.<br>Time Required: 1 hour<br>Reduction: 1,000 lb. steam/hour<br>3. Shut down raffinate evaporator in the Refinery.<br>Time Required: 2 hours<br>Reduction: 30,000 lb. steam/hour |

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2.3.2.4 Air Pollution EMERGENCY

| Facility | Objective (Table 2, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | (a) "Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage." | Reduce ambient temperatures in offices, laboratories, and Service Building to a maximum of 65°F when occupied. Reduce ambient temperatures in all buildings, when unoccupied, and production facilities to a maximum of 55°F.<br>Time Required: 1 hour<br>Reduction: 10,000 - 15,000 lb. steam/hour<br>See "Manufacturing industries" for reductions in heat load demand from processes. |
| | (b) "Taking the action called for in the emergency plan." (Ref. 2.3.2.3(b)) | Steam generating plant supervisors shall coordinate the orderly dropping of process steam loads in accordance with the plan previously established during the WARNING level of the episode. |

2.3.2 FMPC Actions for Reduction of $SO_2$ Emissions (cont'd)

2.3.2.4 Air Pollution EMERGENCY (cont'd)

| Facility | Objective (Table 2, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Manufacturing & processing industries | "Maximum reduction of heat load demands for processing." | (1) Continue ALERT and WARNING responsive actions.<br>(2) Shut down the UNH evaporator in the Refinery. Upon completion of processing of their contents reduce steam demand of boildown and sparge tanks in Denitration Area to minimum hold position. Shut down steam spargers in the Refinery Sump receiving tanks and reduce steam demand in the Sump area to the minimum required to prevent equipment damage. Cease digestion operations upon completion of current C/D batch.<br>Time Required: 6 - 12 hours<br>Reduction: 45,000 lb. steam/hour |

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### 2.3.3 FMPC Actions for Reduction of $NO_x$ Emissions

#### 2.3.3.1 General Actions
(Applicable to All Levels of Air Pollution Episodes)

| Objective: (Table 3, AP-11-04) | FMPC Responsive Action |
|---|---|
| 1. "Substantial (Maximum) reduction (of nitrogen oxides) by utilization of fuel which results in the formation of less air contaminant." | Only coal is available. Thus no action can be taken to meet this objective. |
| 2. "Maximum reduction by prevention of open burning." | Open burning is not permitted at any time. |

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#### 2.3.3.2 Air Pollution ALERT

| Facility | Objective (Table 3, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | "Reduction of steam load demands consistent with continuing plant operations." | Ambient temperatures shall be reduced in offices, laboratories, and all other buildings to a maximum of 65°F during hours of operation and to 55°F when the buildings are unoccupied.<br>Time Required: 1 hour<br>Reduction: 5,000 - 7,500 lb. steam/hour |
| Manufacturing & processing industries | (a) "Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations." | The following operations shall stop immediately:<br>1. Chip pickling and scrap pickling in Plant 6.<br>2. Safe geometry digester in Plant 1.<br>3. Metal Dissolver in the Refinery.<br>4. $NO_x$ generating operations in the Pilot Plant.<br>Time Required: 1 hour<br>Reduction: 30% of process $NO_x$ emissions |
| | (b) "Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances." | (1) Oil Burner shall be shut down for duration of Episode.<br>Time Required: 1 hour<br>Reduction: Minimal<br>(2) Graphite Burner shall not be operated during an Episode. If in operation at the start of an Episode, feed shall be discontinued.<br>Time Required: 4 hours for complete burnout of contents<br>Reduction: Minimal |

2.3.3 FMPC Actions for Reduction of $NO_x$ Emissions (cont'd)

2.3.3.2 Air Pollution ALERT (cont'd)

| Facility | Objective (Table 3, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Manufacturing & processing industries (cont'd) | (c) "Reduction of heat load demands for processing consistent with continuing plant operations." | (1) Steam cleaning and other decontamination operations employing steam directly or for heating tanks, etc. shall cease.<br>(2) Direct use of steam for lances or agitation is prohibited.<br>Time Required: (1), (2) - 1 hour<br>Reduction: (1), (2) Total - 1,000 lb. steam/hour<br>(3) Drum washing operations shall be stopped for the duration of the Episode, unless and until the lack of drum washing threatens continuity of production operations.<br>Time Required: 1 hour<br>Reduction: 1,000 lb. steam/hour |
| Refuse Disposal Operations | "Substantial reduction by limiting burning of refuse in incinerators to the hours between 12:00 Noon and 4:00 P.M." | Incinerator operation shall be restricted to the hours between 12:00 Noon to 4:00 P.M.<br>Time Required: 1 hour for shutdown if incinerator is in operation<br>Reduction: None |

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2.3.3.3 Air Pollution WARNING

| Facility | Objective (Table 3, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | (a) "Reduction of steam load demands consistent with continuing plant operations." | Continue ALERT responsive action. |
| | (b) "Making ready for use a plan of action to be taken if an emergency develops." | Steam generating plant supervisors shall review operating requirements with the supervisors of the Refinery and any other plants with equipment on stream with large steam requirements and develop an orderly shutdown plan in the event of an "EMERGENCY" level episode, so as to assure a minimum of smoke emissions resulting from the drastically diminishing steam load. |

2.3.3 FMPC Actions for Reduction of $NO_x$ Emissions (cont'd)

2.3.3.3 Air Pollution WARNING (cont'd)

| Facility | Objective (Table 3, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Manufacturing & processing industries | (a) "Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations." | 1. Continue ALERT responsive actions.<br>2. Refinery Drum Digestion and Continuous Digestion operations shall be shut down.<br>Time Required: 6 hours<br>Reduction: 20% of process $NO_x$ emissions |
| | (b) "Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances." | Continue ALERT responsive actions. |
| | (c) "Reduction of heat load demands for processing consistent with continuing plant operations." | 1. Continue ALERT responsive actions.<br>2. Shut down the raffinate evaporator in the Refinery.<br>Time Required: 2 hours<br>Reduction: 30,000 lb. steam/hour<br>3. Shut down steam spargers in the Refinery Sump receiving tanks and reduce steam demand in the Sump area to the minimum required to prevent equipment damage.<br>Time Required: 2 hours<br>Reduction: 5,000 lb. steam/hour |
| Refuse Disposal Operations | "Complete elimination of the use of incinerators." | Incinerator operation is prohibited. Utilities supervision shall make necessary arrangements with Transportation for storage of refuse for duration of WARNING level of episode.<br>Time Required: 1 hour for shutdown if incinerator is in operation<br>Reduction: Total elimination of incinerator emissions |

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2.3.3 FMPC Actions for Reduction of $NO_x$ Emissions (cont'd)

2.3.3.4 Air Pollution EMERGENCY

| Facility | Objective: (Table 3, AP-11-04) | FMPC Responsive Action |
|---|---|---|
| Steam generating plant | "Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage." | Reduce ambient temperatures in offices, laboratories, and Service Building to a maximum of 65°F when occupied. Reduce ambient temperatures in all buildings, when unoccupied, and production facilities to a maximum of 55°F.<br>Time Required: 1 hour<br>Reduction: 10,000 - 15,000 lb. steam/hour<br>See "Manufacturing industries" (c) for reductions in heat load demand from processes. |
| Manufacturing & processing industries | (a) Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment. | 1. Continue ALERT and WARNING responsive actions.<br>2. Shut down denitration and allied operations in stepwise manner, emptying boildown and charge tanks and other systems which can be damaged by lack of steam.<br>Time Required: 8 hours<br>Reduction: 60% of Process $NO_x$ emissions |
| | (b) Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors or malodorous substances. | Continue ALERT and WARNING responsive actions. |
| | (c) Maximum reduction in heat load demands for processing. | 1. Continue ALERT and WARNING responsive actions.<br>2. Shut down the UNH evaporator in the Refinery. Upon completion of processing of their contents reduce steam demand of boildown and sparge tanks in Denitration area to minimum hold position.<br>Time Required: 6 - 12 hours<br>Reduction: 40,000 lb. steam/hour |
| Refuse Disposal Operations | Complete elimination of the use of incinerators. | Continue WARNING responsive action. |

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2.3.4 FMPC Actions for Reduction of HYDROCARBON Emissions

There is only one source of hydrocarbon emissions, the vapor degreaser in Plant 6, affected by any declaration of an air pollution episode caused by hydrocarbons. In the event of an Air Pollution ALERT, WARNING, or EMERGENCY for reasons of excessive hydrocarbon concentration, the vapor degreaser shall be immediately shut down.

Time Required: 1 hour
Reduction: Elimination of hydrocarbon (photochemical oxidants) emissions from stationary sources

It should be recognized that in the event of such an ALERT, WARNING or EMERGENCY for hydrocarbons (photochemical oxidants), beyond a doubt a reduction of $NO_x$ emitted from stationary sources will be called for since $NO_x$ plays a prominent part in the creation of "smog" from hydrocarbons in the atmosphere. Thus, implementation concurrently of the hydrocarbon and $NO_x$ portions of the FMPC Emission Control Action Program is likely.