

## ADMINISTRATIVE CONTROL PROCEDURES

## CONTROL OF COMBUSTIBLES

No. 1406.6

Page 1 of 12

Rev. 3 Date 7/29/82

1.0 Purpose

This procedure provides policies for the control of combustible materials at DAEC. In addition, it provides a procedure to control ingress/egress of combustible materials to/from the power block buildings, and control the levels of combustible loading in each fire zone.

2.0 Applicability

This procedure applies to all personnel working at DAEC. The permit system applies to all areas within the power block buildings. This procedure applies to vehicles only when left unattended inside a power block building.

3.0 Definitions

- 3.1 Combustible Material - Any material capable of supporting combustion.
- 3.2 Transient Combustible Materials - Any material that will support combustion that is not installed as part of the plant or any of its systems.
- 3.3 Power Block Buildings - Those buildings which make up and are necessary to the operating plant. For this procedure, they shall include: Reactor Bldg., Turbine Bldg., Radwaste Bldg., Control Bldg., Off-Gas Retention Bldg., Machine Shop, Pumphouse, and Intake Structure.
- 3.4 Fire Hazard Analysis (FHA) - A study of the plant's ability to achieve a safe shutdown if a design basis fire (as discussed in the FHA) were to occur within a given fire area.
- 3.5 Plant Supervisor and cognizant supervisor, for the purposes of this procedure, shall include all ie: plant supervisors and all contract supervisors directing operations, maintenance, or construction activities.

4.0 Responsibilities and Authorities

- 4.1 Each individual is responsible for maintaining an awareness of the fire hazards associated with the use of combustibles and minimizing the use of combustibles in the power block structures and other areas.
- 4.2 Each Plant Supervisor is responsible for enforcing the requirements of this procedure and other control procedures for combustible materials.
- 4.3 Each Plant Supervisor is responsible for ensuring transient combustibles are removed from the power block structure and other safety related areas within the time restrictions imposed by this procedure.
- 4.4 Each Plant Supervisor is responsible for ensuring compensatory measures are taken in accordance with the DAEC Fire Plan when transient combustible loading exceeds levels permitted by the Fire Hazard Analysis.

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- 4.5 The Fire Marshall or his designated alternate is responsible for making periodic inspections for fire hazards identification and reporting the results of such inspections to plant management.
- 4.6 The Quality Control Department is responsible for inspecting accessible areas for transient combustibles as specified in Housekeeping Control Procedure HCP-1 and reporting findings to the Assistant Chief Engineer (Operations) for corrective action.
- 4.7 The Fire Marshall or his designated alternate has the authority and responsibility for maintaining awareness of the levels of combustible loading in each fire zone. This shall include maintenance of a list of combustible materials by quantity for each fire zone (Attachment 3) and a file of Active Control Tags (Attachments 1 and 2).
- 4.8 When a proposed addition of combustible loading is to be permanent, the Fire Marshall or his designated alternate has the responsibility for requesting a design review from the Design Engineering Department to facilitate the inclusion of the material on an updated Fire Analysis Matrix.

#### 5.0 Requirements

- 5.1 Combustible materials such as HEPA and charcoal filters, dry ion exchange resins, wood, plastic, paper, and cardboards, protective clothing, rags and other combustibles shall be controlled as follows:
- 5.1.1 No combustible material should be stored in areas where safety related systems or equipment would be exposed by such storage. The DAEC Fire Hazards Analysis Report (FHA) lists safety related systems, equipment, and components in each Fire Zone throughout the plant. The FHA should be consulted whenever necessary to assure compliance with this section.
- 5.1.2 When replacing HEPA and charcoal filters only the amount necessary for the job is permitted in the power block structure and other safety related areas. Used HEPA and charcoal filters shall be disposed of in accordance with Radwaste Handling Procedures within 72 hours of replacement.
- 5.1.3 Resin and filters may be stored in areas that do not contain or expose safety related equipment as necessary for routine plant operations. Resins stored in the Condensate Demineralizer area of the Turbine Bldg., 780' level shall be limited to 75 buckets. Resins stored in the resin storage area of the Radwaste Bldg., 786' level shall be 150 buckets of resin and 5 bags of Solkafloc. Used resin containers shall be removed from the power block structure in accordance with the Radiation Protection Procedures weekly.

- 5.1.4 Rags shall be stored in containers provided for that use or removed from work areas at the completion of the job or at the end of each shift, whichever is sooner, and shall be disposed of in accordance with applicable Radiation Protection Procedures. Care should be taken to avoid unnecessary radioactive contamination of rags to minimize the volume of radioactive waste generated. Plant supervision shall ensure the accumulation of used rags in the work area does not present an unacceptable fire hazard.
- 5.1.5 The use of wood in the power block structure and other safety related areas shall be minimized. If wood is the only suitable material available it may be used provided it is fire retardant treated wood. When wood is to be taken into a power block building, a Combustible Material Control Tag (Attachment 1) shall be completed. Wood shall be removed from the plant as soon as possible and in any case within 72 hours after completion of the work. Wood ladders should not be used in radioactively contaminated areas.
- 5.1.6 Shipping crates or containers should be removed from material prior to the material being taken into the power block structure or other safety related area. If removal is not feasible, a Combustible Material Control Tag (Attachment 1) shall be completed prior to bringing the container into the plant. The container shall be removed from the plant as soon as practicable after completion of its use. Measures should be taken to prevent radioactive contamination of shipping crates or containers when taking such into radioactively contaminated areas.
- 5.1.7 Radiation Protection Clothing shall be placed in the appropriate containers (drums) provided at the step-off-pad areas when exiting the work area. These containers shall be checked routinely and when full, the clothing shall be taken to the laundry storage area for processing. Processed (decontaminated) protective clothing shall be stored in either the permanent metal storage shelves, portal metal storage lockers, or in drums. Drums not in use shall be kept covered.
- 5.1.8 Paper, cardboard and other combustibles shall not be left to accumulate in work areas.
- 5.1.9 Each Plant Supervisor shall ensure compensatory measures are taken in accordance with the DAEC Fire Plan when transient combustible loading exceeds levels permitted by the Fire Hazards Analysis.
- 5.1.10 Each Plant Supervisor shall ensure that combustible materials are removed from work areas at the completion of the job. Where a job continues more than one shift, the cognizant supervisor should ensure that combustible materials not needed for completion of the job are removed after each shift.

- 5.1.11 Fire Marshall or his designated alternate shall maintain a file of active Control Tags (Attachments 1 and 2).
- 5.1.12 Fire Marshall or his designated alternate shall review combustible loading changes made pursuant to Attachments 1 and/or 2 by performing the combustible loading calculations as in ACP 1202.1. Results of this review shall be used to check for compliance with Fire Hazards Analysis Report. When combustible loading changes are permanent, the Fire Marshall or his designated alternate shall request from Design Engineering Department a review of ACP 1202.1 to facilitate inclusion of the new loading on an updated Fire Analysis Matrix.
- 5.1.13 The Combustible Material Control Tag, when it is necessary, shall be completed as follows:
- a) Material Description - item and composition (Ex: wood scaffolding)
  - b) Amount - estimate the weight or the size (Ex: 7-2x12x9') or (Ex: 350 pounds)
  - c) Destination - area in which the material will be located (Ex: Turbine Bldg., 757', adj. north roll-up door)
  - d) Date in - date material actually taken in
  - e) Time in - time material actually taken in
  - f) Responsible individual - name of the technician, operator, or craft worker bringing the material into the plant
  - g) ... duration of use - approximate duration of the effected job. (Ex: 9 working days)
  - h) Authorized by - cognizant supervisor's signature
  - i) Date - date of supervisor's approval

- 5.1.14 The original of the Control Tag shall be taken into the plant with the material and shall be posted inside or immediately outside the work area.

When the material is removed the original of the Control Tag shall be removed from its place of posting and disposed of.

"A" copy of the Control Tag shall be forwarded to the DAEC Fire Marshall or his designated alternate for his use in performing items 5.1.11 and 5.1.12.

"B" copy of the control tag shall be retained by the cognizant supervisor. When the material identified by the tag is removed or relocated the bottom portion shall be completed by the cognizant supervisor. After the bottom portion of the tag (j or k) has been completed, "B" copy shall be forwarded to the Fire Marshall or his designated alternate for his use in performing items 5.1.11 and 5.1.12.

- 5.2 Flammable and combustible liquids such as acetone, alcohol, fuel oil, lubricating oils, EHC oil, glycol or gasoline when used inside the power block structure and other safety related areas shall be controlled as follows:
- 5.2.1 Flammable and combustible liquids shall not be used or placed near heat, open flame, or other sources of ignition. When not in use containers shall be kept tightly capped.
  - 5.2.2 Only those quantities of flammable and combustible liquids permitted by Radwaste Handling procedures (RWH) and that permitted in the flammable storage cabinets in the Reactor Building Railroad Airlock may be stored in the power block structure or other safety related area.
  - 5.2.3 Other flammable or combustible liquids may be brought into the plant when necessary to support plant operations. Transient material shall be removed as soon as possible after use but not to exceed 72 hours.
  - 5.2.4 Small quantities (up to 2 gallons) of flammable or combustible liquids in approved containers may be brought into a fire zone through access control with verbal authorization of the job supervisor. This small quantity shall not be left unattended in the work area, but shall be taken to an approved storage facility or removed from the power block when not in use. Any unused portions of such small amounts shall be properly stored in a flammable liquid locker or removed from the power block upon completion of its use.
  - 5.2.5 Quantities of flammable or combustible liquids in excess of that specified in paragraph 5.2.4 are permitted in the plant for up to 72 hours. Written authorization is required to bring flammable or combustible liquids into the plant when quantities exceed that specified in paragraph 5.2.4. Flammable and combustible liquids in quantities exceeding 2 gallons may be brought in the perimeter doors only. Normal security and Radiation Protection Procedures apply. Written authorization for bringing flammable/combustible liquids into the plant may be obtained by completing "Flammable Liquid Control Tag" (Attachment 2).

- 5.2.6 The individual bringing flammable or combustible liquids into the plant shall complete the tag as follows:
- a) Material Description - describe the product e.g. EHC oil, acetone, etc.
  - b) Volume - the volume of material being brought into the plant (in gallons).
  - c) Destination - area of use for the material such as feed pump area, etc.
  - d) Date in - self explanatory.
  - e) Time in - self explanatory.
  - f) Responsible individual - name of the technician, operator or craft worker bringing the material into the plant.
  - g) Authorized by - supervisor signature.
  - h) Date - date of supervisor's approval.

The completed tag shall be distributed as follows:

Original - keep with the container of liquid for which the tag was completed.

Copy "A" - forward to DAEC Fire Marshall or his designated alternate.

Copy "B" - retained by cognizant supervisor until liquid has been properly removed from the identified area.

- 5.2.7 Once the control tag is completed the responsible individual may bring the material to a perimeter door. Health Physics and Security personnel shall be present when a perimeter door is opened. The tag shall be placed on the flammable or combustible liquid container. One control tag per container is required.
- 5.2.8 After use but not to exceed 72 hours the personnel completing the work shall remove the material from the plant. Normal Radiation Protection and Security procedures apply when taking the material out of the plant. After the liquid has been removed, the authorizing supervisor shall complete the bottom portion of Copy "B" of the tag and then forward it to the Fire Marshall or his designated alternate.

5.2.9 If the material is potentially contaminated it must be sampled in accordance with Applicable Radwaste Handling (RWH) procedures before removal from the plant. The authorizing supervisor shall contact the Radiation Protection Group to arrange for sampling and analysis. Material with radioactive contamination exceeding acceptable disposal limits shall be processed in accordance with RWH procedures. Material with no detectable radioactive limits shall be removed from the plant as soon as possible. Disposal shall be in accordance with EPA regulations governing hazardous waste.

### 5.3 Compressed Gases

Combustible compressed gases (in portable tanks) such as acetylene or aerosol cans containing flammables when used in work areas shall be controlled as follows:

5.3.1 The use of oxyacetylene torch equipment will be in accordance with ACP-1406.7 - Control of Ignition Sources.

5.3.2 Before bringing any flammable gases into a power block building, the Combustible Material Control Tag (Attachment 1) shall be completed and signed by the cognizant supervisor.

5.3.3 Leaking cylinders, valves, fitting or aerosol cans shall not be used.

5.3.4 Adequate ventilation must be available.

5.3.5 Upon completion of the work, the portable compressed gas containers or aerosol cans must be removed from the area.

## 6.0 INSTRUCTIONS

6.1 All personnel who may enter areas within the plant shall be instructed as to the requirements of this procedure, Section 5.0, and shall report apparent violations to the Supervisor for resolution.

## 7.0 REFERENCES

HCP - 1 Housekeeping Control Procedure  
 DAEC Fire Plan  
 DAEC Fire Hazards Analysis  
 RWH - Radwaste Handling Procedure

APPROVED:

David L. Munnell 8-24-82  
 Plant Superintendent - Nuclear

APPROVED:

Robert H. M. Munnell 7-30-82  
 Quality Control Supervisor

REVIEWED:

DeWilson 8-16-82  
 Chairman, Operations Committee

APPROVED:

George R. Fulford  
 Mechanical Maintenance Supv.

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Page 8 of 12

Rev. 3 Date 7/29/82

Original - keep with material  
Copy "A" - Fire Marshall  
Copy "B" - Cognizant Supervisor

COMBUSTIBLE MATERIAL CONTROL TAG  
(Attachment 1)

Material Description \_\_\_\_\_

Amount (estimate the weight in pounds) \_\_\_\_\_

Destination \_\_\_\_\_

Responsible Individual \_\_\_\_\_

DATE IN	_____
TIME IN	_____

MATERIAL SHALL BE REMOVED FROM THE PLANT AS SOON AS POSSIBLE AND WITHIN 72 HOURS AFTER COMPLETION OF ITS USE.

If material is expected to be in the plant for more than 72 hours, estimate duration of its use. \_\_\_\_\_

Authorized by \_\_\_\_\_ Date \_\_\_\_\_

cc: Fire Marshall  
Cognizant Plant Supervisor

When material has been removed from area designated above, complete j or k below.

j. Material identified above has been removed from the power block.

\_\_\_\_\_  
Cognizant Supervisor \_\_\_\_\_ Date \_\_\_\_\_

k. Material identified above has been relocated within the plant and a new combustibile material control tag has been completed.

\_\_\_\_\_  
Cognizant Supervisor \_\_\_\_\_ Date \_\_\_\_\_

Original - keep with liquid  
Copy "A" - Fire Marshall  
Copy "B" - Cognizant Supervisor

FLAMMABLE LIQUID CONTROL TAG  
(Attachment 2)

Material Description \_\_\_\_\_

Volume \_\_\_\_\_ gal \_\_\_\_\_

Destination \_\_\_\_\_

Responsible Individual \_\_\_\_\_

DATE IN	_____
TIME IN	_____

MATERIAL SHALL BE REMOVED FROM THE PLANT WITHIN 72 HOURS

Authorized by \_\_\_\_\_ Date \_\_\_\_\_

cc: Fire Marshall  
Cognizant Plant Supervisor

When material has been removed from area designated above, complete j or k below.

j. Material identified above has been removed from the power block.

\_\_\_\_\_  
Cognizant Supervisor \_\_\_\_\_ Date \_\_\_\_\_

k. Material identified above has been relocated within the plant and a new combustible material control tag has been completed.

\_\_\_\_\_  
Cognizant Supervisor \_\_\_\_\_ Date \_\_\_\_\_

(Attachment 3)

## FIRE ZONE DESCRIPTIONS

<u>Fire Zone</u>	<u>Area</u>
Reactor Building	
1-A	Torus Area
1-B	Northwest Corner Room
1-C	Northeast Corner Room
1-D	Southeast Corner Room
1-E	HPCI Room
1-F	RCIC Room
1-G	Southwest Corner Room
1-H	Radwaste Tank Room
2-A	North CRD Module Area
2-B	South CRD Module Area
2-C	CRD Repair Room
2-D	RHR Valve Room
2-E	Off Gas Recombiner
2-F	Railroad Airlock
2-G	Main Steam Valve Chamber
2-H	CRD Cable Room
3-A	Laydown Area
3-B	Corridor and Waste Tank Area
3-C	Standby Gas Treatment System Room
3-D	MG Set Room
3-E	Spent Resin Tank Area
4-A	HVAC Heat Exchanger and Chiller Area
4-B	Equipment Hatch Area
4-C	Main Exhaust Fan Room
4-D	Heating Hot Water Pump Room
4-E	Plant Air Supply Fan Room
4-F	Holding Pump Area
4-G	Fuel Storage Area
5-A	Laydown Area
5-B	Fuel Storage Area
6-A	Refueling Floor

## FIRE ZONE DESCRIPTIONS

## Turbine Building

7-A	Reactor Feed Pump Area
7-B	Lower Switchgear Room
7-C	Turbine Lube Oil Tank Area
7-D	Oil Storage Tank Vault
7-E	Water Treatment and Condensate Pump Area
7-F	Condenser Area
8-A	Ground Floor-North Portion
8-B	Upper Switchgear Room
8-C	Tube Pulling Area
8-D	Ground Floor South Portion
8-E	Heating Boiler Room
8-F&H	Emergency Diesel Generator Room
8-G&J	Diesel Generator Day Tank Room
9-A	Turbine Operating Floor

## Control Building

10-A	Corridor-Control Building
10-B,C,D	Battery Rooms
10-E,F	Essential Switchgear Rooms
11-A	Cable Spreading Room
12-A	Control Room Complex
12-B	Control Building HVAC Room

## Radwaste/Off-Gas Building

13-A	Radwaste - Drumming and Shipping
13-B	Radwaste - Treatment and Access Area
13-C	Radwaste - Precoat and Access Area
13-D	Radwaste - Control Room
14-A	Machine Shop
15-A	Off-Gas - Charcoal Adsorber Vault
15-B	Off-Gas - control and Glycol Area
15-C	Off-Gas - Prefilter and Condenser Area

## Pumphouse/Intake Structure

16-A,B	Pumphouse - RHR and ESW Pump Area
16-C	Pumphouse - Main Pump Room
16-D	Pumphouse - Diesel Fire Pump
16-E	Pumphouse - Fire Pump Day Tank
16-F	Pumphouse - Safety Related Piping
17-A,B	Intake Structure - Pump Area
17-C,D	Intake Structure - Screen Area

(Attachment 3)  
Page 3

## FIRE ZONE DESCRIPTIONS

## Technical Support Center/Security Center

- 18-A Security Center - Security Post
- 18-B Security Center - Lobby, Ingress and Egress Search Area
- 18-C Security Center - Lunch Room, Director Office, Locker Room,  
Battery Room and Electrical/Instrument Repair Room
- 18-D Security Center - Equipment Room
- 19-A Technical Support Center - Document Control Center, Support  
Engineering Staff and Office Area
- 19-B Technical Support Center - Mechanical Room