Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

1 1 C

March 20, 1980

Mr. James G. Keppler, Director
Directorate of Inspection and
Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Response to IE Bulletin 80-03
"Loss of Charcoal From Standard Type II, 2 inch, Tray Absorber Cells"
Dresden Station Units 1, 2 and 3
Quad Cities Station Units 1 and 2
Zion Station Units 1 and 2
LaSalle County Station Units 1 and 2
Bryon Station Units 1 and 2
Braidwood Station Units 1 and 2
NRC Docket Nos. 50-10/237/249,
50-254/265, 50-295/304, 50-373/374,
50-454/455/456/457

Reference (a): J. G. Keppler letter to C. Reed dated February 6, 1980

Dear Mr. Keppler:

In response to the request for information regarding charcoal aborber cells contained in Reference (a), Commonwealth Edison has reviewed the design and performed examination of such cells. A detailed discussion of the review conducted is contained in the attachement to this letter.

If you should have any further questions in this regard, please direct them to this office.

Very truly yours,

D L Peoples

D. L. Peoples
Director of Nuclear Licensing

cc: Director, Division of Fuel Facility and
Material Safety Inspection
Office of Inspection and Enforcement

Response to IE Bulletin 80-03
NRC Docket Nos. 50-10/237/249,
50-254/265, 50-295/304, 50-373/374,
50-454/455/456/457

Dresden Station

In accordance with IE Bulletin No. 80-03, Dresden Station is investigating the potential for loss of charcoal from charcoal absorber cells used in the Standby Gas Treatment System. The particular type of cell used is the Barnebey-Cheney, Model FC absorber cell containing type 727 activated carbon.

A visual examination of a spare absorber cell disclosed that there was adequate contact between casing and screen and that under normal use, the contact would be maintained close enough to prevent any escape of the charcoal granules which are approximately 2 mm. in diameter. In support of this statement, reference is made to excellent condition in which charcoal absorber cells, that had been in use for several years in the Standby Gas Treatment Sytsem, were found upon their replacement in 1978. In addition, the results of periodic, in place, charcoal adsorber leak tests have disclosed no leaks in the past.

A further step in the investigation will be a visual examination of the charcoal adsorber cells that contain the test cannisters used for testing iodide removal efficiency. This examination will take place in the 720 hour operating time surveillance for iodide removal efficiency. The date for this visual exam is expected to occur around May, 1980.

Note: See Barneby-Cheney, Model FC examination results reported for Quad Cities Station. Because the adsorber cells in use at Dresden and Quad Cities are the same, the Quad Cities results are applicable.

Quad Cities Station

In accordance with IE Bulletin 80-03 usage of charcoal adsorber cells in ventilation systems has been reviewed.

The only ventilation system which utilizes charcoal adsorbers is the Standby Gas Treatment System (SBGTS), Trains A and B. The adsorber cells are manufactured by Barnebey-Chaney Co., Model FC, Type 727 charcoal adsorbant.

A design inspection has been made of a charcoal adsorber tray, which is currently a spare in the Station

warehouse. The following summary is provided:

1. The screens at the adsorber inlet and outlet are actually sheets of stainless steel, secured at the edges with 1/2 inch x 1/2 inch stainless steel angle. Very small holes, about 1/32 inch, allow flow.

2. Three strips 1/2 inch wide were not drilled, and provide support. On the inlet side, these strips are spot welded at 2-inch intervals. On the outlet side, the welds are double, and are 1/2 inch apart. The angle pieces on the edges are spot welded, each 7 inches.

3. The end of the adsorber is a plate with 2 handles, and is held in place with 15 1/4 inch bolts and self-sealing nuts.

4. The screen was unable to be flexed at any point.

5. Based on this inspection, the adsorber housing appeared to be solid and relatively incapable of deformation. Based on the design of the cell and the appearance of the cell during inspection, there would be little potential for charcoal loss.

The charcoal adsorber cells on the SBGTS trains are periodically tested for efficiency utilizing freon. Technical Specifications 3.7.B.2.a.2. & 3., and 4.7.B.2.a.2. & 3. require that a performance test be performed at least once each 1440 hours of system operation, or at least once per operating cycle. A test must also be performed after painting, fire, or chemical release while the system is operating, or after maintenance or testing that could affect the leaktight integrity of the charcoal adsorber cells. Also a charcoal test canister must be periodically removed and sent to a testing laboratory for analysis.

Recent testing results are as follows:

SBFTS Train	Date	Adsorber Freon Test Eff.	Canister Analysis Eff.
A	11/20/79	99.55%	99.87%
B	11/18/79	99.03%	97.71%
B	1/14/80	99.18%	99.98%

Zion Station

After visual inspection of all Safety Related carbon filter cells in Zion Station, it was determined that no loss of charcoal coal from the cells had occurred, not could it at the present time or the near future.

The cell adsorber trays at Zion are the FARR NPP-1 models. None of the cells are riveted, all are spot welded. Fabrication dates varied from January of 1972 to September of 1976.

Upon receipt of new adsorter cells not needed for use immediately, the cells are stored to manaufacturer's specifications. The cells are tested at the manufactureer and leak tested upon installation on site. With this double testing, any damage from handling and/or storage would be detected.

It should be noted that all the Zion Station cell screens are spot welded to the housing. The interval between these welds varies from one half to two inches. In addition to this edge welding, the screen is also spot welded to the lateral reinforcements. In none of the cells inspected was there any indication of significant screen sagging and all screen edges were in contact with the cell casing. There was no penetration of light through the cells observed.

Also checked was the structural integrity of the filter casings. Corner seal welds were inspected for cracks and holes. Casing walls were checked for any punctures, cracks, or damage that could cause a loss of charcoal or an unwarranted flow of air. A check of element installation included gasket seating, symmetry of installed banks, condition of clamping devics and structural rigidity.

Section 5 of ANSI-N510-1975 was used as the procedure for the inspection of all Safety Related Carbon Filter Cells.

The following Charcoal Filter Banks were insepcted:

BANK	# of Elements
Auxiliary Building Filter Bank A	91
Auxiliary Building Filter Bank B	91
Control Room Make Up Air	12
Drumming Station Bank	12
Hydrogen Purge	8
Miscellaneous Vents	6

LaSalle County Station

In accordance with IE Bulletin 80-03 a visual inspection was made of five (5) representative charcoal absorber cells. All five cells were manufactured by CVI Corp. These cells utilize welded construction rather than riveted construction.

Of the five absorber cells examined, no apparent design deficiencies were identified that would result in charcoal loss. However, one unverified discrepancy was identified on the Unit 1 Standby Gas Treatment Train, 1VG015, on which a single spot weld appeared to be broken. Because of the location of the weld in question, a special tool is being developed to perform a more complete inspection. In addition, an investigation of the screen/casing interface will be completed before charcoal is loaded into the unit. A deficiency report for the "VG" system has been prepared, identifying the suspect weld, to assure the discrepancy will be resolved prior to fuel loading.

Byron/Braidwood Stations

Both Byron and Braidwood Stations have purchased absorbers manufactured by NACAR (type G615, puchased from Farr Filter Corporation). However, the subject units have not been received as yet on site.

In the case of the Byron units, the vendor has been directed to perform the required inspection, the results of which will be reported to the NRC by April 16, 1980. The Braidwood units will not be delivered to the site for approximately 6 months. Inspection of the Braidwood units is expected to be completed within 30 days of their receipt on site. The NRC will be advised of the result of that inspection upon its completion.

It should be noted that units identical to those being installed at Byron and Braidwood Station hav already been examined by the vendor, Forr Filter Corporation, with no discrepancies identified. For this reason, the Byron/Braidwood inspection is not expected to identify any discrepancy.