UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC 0 8 2009

Mr. John M. Doran
Manager
CF Industries, Inc., Bartow Operations
P.O. Box 1480
Bartow, Florida 33831

Dear Mr. Doran:

This letter is in response to your November 3, 2009, request for approval of an alternative compliance method related to the requirements for radon-222 flux measurements on inactive phosphogypsum stacks per 40 Code of Federal Regulations (CFR), Part 61.203, Radon Monitoring and Compliance Procedures, and Appendix B, Method 115.

You are requesting approval to deviate from the above mentioned radon monitoring requirements. These deviations include: the number of sample measurements performed; the necessity for conducting measurements on areas of the phosphogypsum stack that are covered by a high density polyethylene liner (HDPE); and the methodology for measuring radon-222 flux by utilizing radon tracking devices in place of the collection canisters/activated charcoal per Method 115 of Appendix B.

Regarding the number of sample measurements to be performed, the minimum number of samples is 300, per 40 CFR Part 61, Appendix B, Method 115, Section 3.1.3. While we understand that the mitigation steps already taken (i.e., installation of HDPE and soil/vegetation cover) on the stack should minimize the radon flux, the minimum number of radon flux measurements of 300 must still be performed to demonstrate compliance with the 40 CFR Part 61.202 standard of 20 picocuries per square meter per second. Using guidance in the "Multi Agency Radiation Survey and Site Investigation Manual (MARSSIM)" to justify a reduced number of samples would not be appropriate as MARSSIM is typically utilized to determine the number of soil or radiation sample points for site investigations and confirmatory surveys, not regulatory compliance air measurements.

You have requested that areas of the stack which are covered by the HDPE not be measured for radon-222 flux. Unfortunately, the inclusion of mitigation measures prior to the required radon flux measurements (within 60 days of the stack being declared "inactive" per 40 CFR Part 61.203, Radon Monitoring and Compliance Procedures) does not negate the requirement for radon flux measurements. The exception would be that areas covered by water and assumed to have zero radon-222 flux emissions are not required to be measured for radon-222 flux.

You also requested that radon tracking devices be utilized in place of the required collection canisters/activated charcoal methodology per 40 CFR Part 61, Appendix B, Method 115. The radon tracking devices are known to be a reliable method for measuring ambient radon flux in buildings, while the collection canisters/activated charcoal methodology is intended for measuring the radon-222 flux emanating from the phosphogypsum stack. Thus, it is our conclusion that the radon tracking device is not considered a good methodology for conducting the required radon flux compliance measurements on the phosphogypsum stack per 40 CFR Part 61.203, Radon Monitoring and Compliance Procedures.

Regarding your concern that it is difficult to find vendors capable of conducting the necessary radon-222 flux measurements per 40 CFR Part 61, Appendix B, Method 115, our information indicates that there are a sufficient quantity of vendors. We consulted with both the Florida Institute for Phosphate Research and the Florida Department of Health (FLDOH), both located in Bartow, FL, for information related to the availability of 40 CFR Part 61, Appendix B, Method 115 radon-222 flux testing and found that not only have their been no issues with regulated facilities obtaining the required testing services, the FLDOH actually does the required radon-222 flux testing on a routine basis as part of their monitoring of reclaimed phosphate mining locations. FLDOH has also previously performed the required 40 CFR Part 61, Appendix B, Method 115 testing for other regulated facilities. For your convenience, their contact information is noted below and they are being copied on this letter.

If you have any further questions concerning this letter, please contact Rick Button of my staff at 404-562-9135.

Sincerely,

Carol L. Kemker for

Kenneth R. Lapierre
Acting Division Director
Air, Pesticides and Toxics
Management Division

cc: Ms. Cindy Phillip, PE
Program Administrator, FDEP Bureau of Air Regulation

Mr. Randy Penn
Department of Health, Bureau of Radiological Health

Mr Reid Rosnick
U.S. EPA, ORIA