



Savannah River Site

Citizens Advisory Board

Recommendation 160

Burning Paper Pellets in A-Area Boilers

Background

The use of paper pellets as an alternative fuel source has been demonstrated for a number of years. The State of Wisconsin began to test co-firing paper pellets with coal back in 1987. In 1996, sixteen state-owned energy facilities had the flexibility to burn paper pellets and over 11,000 tons of coal were displaced with 16,250 tons of paper pellets (Ref. 1). In addition, the Joint Services (Army, Navy, Marines, and Air Force) Pollution Prevention Opportunity Handbook (Rev. 5/1/99) describes the benefits of using pelletized paper fuel. Some of the advantages to using paper pellets include the high heat content, the reduction in sulfur emissions, and the replacement of non-renewable fossil fuels (Ref. 2).

Two years ago, SRS proposed using paper pellets in the A-Area stoker fired boilers as a supplemental fuel source. The benefits are similar to the ones noted in Joint Services Pollution Prevention Opportunity Handbook. SRS also noted the reduction in air emission, the reduction of recyclable material being disposed in a landfill, the reduction in ash volume, and the cost reduction as benefits to the proposed plan. During this evaluation period, SRS has had numerous discussions with the South Carolina Department of Health and Environmental Control (DHEC) concerning the regulatory ramifications of burning paper pellets. SRS is currently attempting to obtain case-by-case limitation determination as outlined in the Waste Combustion and Reduction regulations and has presented this approach to DHEC (Ref. 3). This case-by-case limitation determination depends upon an evaluation of the material being burned and the resulting emission (source) testing data. Previous test data had been compromised by mechanical problems, which limited boiler steam capacity and new tests will be run (Ref.4). In addition, due to increased security requirements, delays have been encountered in allowing testing contractors access to the A-Area boilers.

The SRS CAB previously questioned the regulatory classification of the resulting ash and the ash basin. If the industrial boiler will be classified under the municipal solid waste rules, then could the ash and basin be re-classified from industrial solid waste to municipal solid waste? Since the initial discussions on burning paper pellets, SRS has submitted test data of the resulting ash, which demonstrated that there is no regulatory impact from using alternate paper pellet fuel. Therefore, the ash basin permits will not need modification from their current classification as an industrial solid waste landfill.

Comment

The SRS CAB still supports the effort for a case by case limitation determination to burn paper pellets in the A-Area boiler. The burning of paper pellets along with coal makes economic and environmental sense to the SRS CAB.

Recommendation

The SRS CAB recommends that:

1. SRS and DHEC work together to allow the use of the source testing data from the burning of paper pellets when evaluating the case-by-case limitation determination.
2. DHEC, working with SRS, consider allowing the A-Area boilers to be permitted under a modified permit based upon the case-by-case limitation determination.

References

1. Technology Review: *Paper pellet use in State of Wisconsin facilities* by Don Wichert, Wisconsin Energy Bureau, June 1, 1998.
2. Joint Services Pollution Prevention Opportunity Handbook, Section 7: Solid Waste Management, Paper Recycling, May 1, 1999.
3. Burning of Paper Pellets as Alternate Fuel Co-fired with Coal in A-Area Boilers, presentation to the WM Committee by Don Gordon, March 6, 2001.
4. Alternative Fuel Program Status (Paper Pellets), presentation to the WM Committee by Sonny Goldston, March 4, 2003.

Agency Responses

[Department of Energy-SR](#)