

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

January 27, 1989

MEMORANDUM

SUBJECT: Discounted Cash Flow (DCF) Analysis for Craven County Project New Source Review

FROM: Frank L. Bunyard
Economic Analysis Section, ASB, AQMD (MD-12)

TO: Allen C. Basala, Chief
Economic Analysis Section, ASB, AQMD (MD-12)

Per your request, I have reviewed the DCF submitted with the permit application for New Source Review under the Prevention of Significant Deterioration regulations.

I have conducted a partial sensitivity analysis to test assumptions on selected key variables. One of the important results was that allowing for constant revenues over 15 years does make the project with thermal deNOx, feasible for both target rate of return and debt service coverage.

The most important factors subject to scrutiny are concerned with the following:

- * The revenue stream over the project life, particularly the assumed rates for the years 2001 through 2005.
- * The escalation rate for wood waste prices (i.e., 1990 price of \$11 per ton for wood wastes rises to \$21 per ton in 2005).
- * The depreciation schedule assumed for the analysis (i.e., write-off of equipment in 5 years.)
- * The inconsistent cost of capital for base plant (7.5%) and thermal deNOx (11.5%).

To reiterate our teleconference discussion, there are two points regarding the analysis that seem to be counter intuitive with reality. I do not believe that a project to be viable which shows declining revenues with rising fuel costs over time, the thermal deNOx controls notwithstanding. Secondly, we do not believe that prices for waste wood would escalate at the rate as assumed. Given that wood wastes represent an undesirable commodity, namely the worst part of the tree, we would think that prices for residual wood (chips and saw dust) would continue to be relatively flat in the Southeast U.S., as they have been historically.

I would recommend the following contacts for providing accurate answers to interject a more realistic scenario in the analysis:

- (a) North Carolina Utilities Commission, Electric Division for renegotiation of utility rates on rate schedules (e.g., CSP-6c). Phone (919) 733-2267
- (b) Phillip Badger (TVA), Southeast Biomass Program, Mussel Shoals, Alabama for information on costs and availability for wood wastes. Phone (205) 386-3086.

Also, Robert Brooks (TVA), Norris, Tennessee. Project manager for a computer model of availability and costs for forest resources for the Southeast. Phone (615) 632-1513.

Also, Fred Allen, Georgia Forestry Commission, Macon, Georgia. Phone (912) 744-3357.

- (c) Refer to the 1986 IRS (or later years) Tax Code for depreciation schedules.

I have followed up on some of these contacts listed herein and have found that the Craven Project assumptions on revenues and fuel costs are very pessimistic or conservative. Consequently, it would appear that the scenario portrayed in the Craven County project shows that the thermal deNOx represents the knife-edge for project feasibility.

In conclusion, I would recommend that the documentation for the Craven County Project provide more substantive justification for the assumptions concerning the key variables discussed in this analysis. As the analysis stands, the findings are not convincing as a test of infeasibility.