

## G. RECOMMENDATIONS FOR FUTURE APPLIED R & D ACTIVITIES

A number of future applied R & D activities have been identified in this interim report for consideration. Future reports will address this activity in greater detail.

### Recommendations

1. Development of improved lower energy consuming reliable FGD systems for thermal power, especially regenerative types.
2. Process/control technology development for the reduction of  $\text{SO}_x$  emissions from non-ferrous weak strength gas streams.
3. Research on methods, products and markets to reduce cost and energy consumption and improve environmental acceptability for the disposal of sulphur by-products.
4. Development of improved control technology for  $\text{NO}_x$ .
5. Development of systems/technology to accelerate the reduction of  $\text{NO}_x$  emissions from the existing transportation fleets.
6. An intensive R&D effort is required to characterize U.S. and Canadian coal resources in terms of their "cleanability" and to develop improved, less expensive methods of coal cleaning.
7. A long-term commitment to develop cleaner less expensive methods of coal combustion, such as coal gasification, should be made.
8. Improved estimates of current United States and Canadian emissions are needed. In particular, total U.S. emissions need refinement and disaggregation on a smaller geographic scale than is currently available. In addition, research is needed on seasonal variations in emissions and on primary emissions of sulfates.
9. An improved data base on  $\text{NO}_x$  emissions is required.
10. A long-term demonstration project on coal-limestone pellets using large stoker-fired boilers should be undertaken.
11. A near-term R&D project to demonstrate the emissions reductions achievable with and the economics of spray dryer FGD processes applied to high sulfur coals is required.