ANALYSIS OF COAL WAGON OPTIONS FOR POWER STATION COAL TRAFFIC

A general survey of the current rail system for delivery of power station coal has been undertaken. The aims were:

- To identify and evaluate improvements to wagon design, either for application to existing wagons or for future designs.
- To discover whether alternative methods of handling the traffic by rail offered economic benefits.

No fully costed design proposals have been possible, but ideas have been identified which might be worthy of detailed analysis.

Current Merry Go Round (MGR) operations could be improved by adopting two relatively cheap ideas:

- Coal deflectors over the rail, added to the HAA wagons, to reduce shocks and hence unloading failures and damage to the wagons and unloading mechanisims.
- Provision of automatic brake test equipment.

It is unlikely that any of the other modifications to the HAA wagons considered would produce worthwhile economic benefits if applied retrospectively. If new wagons are required, to operate with the existing loading and unloading equipment, a number of improvements to the existing HAA design should be considered. This would enable the payload, efficiency of working and maintenance costs to be considerably improved.

With the addition of a removable auto-coupler to the locomotives and the end vehicles of a train, a fairly cheap modification, single manning would be possible.

If new traffic flows are not constrained by existing loading and unloading plant, alternatives to the existing centre discharge hoppers should be considered. Side discharge hoppers or tipplers offer greater carrying capacity per metre of train length and potential discharge rates appear to be competitive. The indications point to tippler wagons and rotary dump unloading facilities giving the lowest overall costs for large movements of coal, as required for power stations. This applies particularly to British Rail where conditions severely limit the length of trains.

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