



Case Study

Port of Bristol Bulk Handling Terminal

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In early 1991 Balfour Beatty, one of Britain's major civil construction companies and Birtley Engineering, the country's largest bulk handling contractor, formed a joint venture to tender for the major importation terminals which were planned by the two major power generators in the U.K., National Power and PowerGen. In that year three tenders were submitted: one project did not proceed, namely Immingham, and the consortium was successful with one of the other two projects which was at Bristol for National Power in association with The Bristol Port Company. The terminal will be operated by The Bristol Bulk Company Limited, a company jointly owned by The Bristol Port Company and National Power Plc which is being set up for the purpose. The client had appointed as its consulting engineers the combination of Halcrow Soros, whose brief was to prepare the performance specification, adjudicate the tenders and finally to assist the client's project staff to oversee construction as part of a Joint Project Team established for the purpose.

Objective

The terminal is a multi-user, multi-cargo bulk terminal, which apart from power station coal is required:

1. to receive a variety of other "hard" materials such as aggregates for despatch by road from the stockyard; and
2. to unload "soft" materials - fertilisers and animal feeds - from ships for transfer (via transfer station TS1) to a covered dry bulk store being developed by others adjacent to the Royal Portbury Dock.

The main parameters of the terminal were as follows:

- Annual throughput: 7,000,000 t
- Unloading rate: 4,000 t/h
- Stacking rate: 4,000 t/h
- Stockpile capacity: 550,000
- Reclaim rate: 2,500 t/h
- Train loading: 1x45 HAA Wagon Train in 15 minutes

The client's proposals are illustrated in Fig. 1 (overleaf) and show the two continuous ship unloaders sited in the Royal Portbury Dock with the stockyards being located on the vacant land situated between the M5 motorway, the Lafarge plasterboard factory and the river Avon.