

British Railways Performance and Efficiency Test Bulletins

British Railways, between 1950 and 1960, carried out a number of tests on different classes of steam and diesel locomotives. The results of each series of tests were written up and issued as a public document in the form of a Bulletin, published by the British Transport Commission. These varied in size from around 40 to 70 pages. The Bulletins that I am aware of are listed in the table below.

Each Bulletin contained an introductory number of pages outlining the objectives of the tests, any peculiarities that were discovered, any shortcomings in the locomotives that needed to be addressed before the tests could be continued, details of the locomotive tested and the fuel it was run on. There were usually some pages devoted to photographs and diagrams of the locomotive giving its principal dimensions, characteristics, etc. The major part of the Bulletins were graphs and tables giving details of the results of the tests.

In the case of the steam locomotives they were first put through tests on the Swindon or Rugby Stationary Test Plant to obtain steaming rates (up to the Front End Limit) in relation to coal and water consumption, and the indicated horse power over a range of rates of working. The data obtained was then used to establish the conditions to be used for a series of main line Controlled Road Tests. In these the locomotive was loaded to suit the test being carried out and then operated over an extended period (up to around an hour) at a constant steaming rate; the cut-off being altered, in relation to the speed, so that the steam consumption rate was constant. This sometimes had interesting consequences when a test train met adverse signals, the brakes had to be applied, and the cut-off lengthened to suit the slower speed.

Most tests were carried out using the type of coal that they would normally have used in everyday service so that the results were not adversely, or favourably, skewed. In some cases (such as the BR Standard classes) they were tested on more than one type of coal since they might be required to work almost anywhere on the BR system.

The three types of coal used in the tests, all bituminous “steam” coals, came from the following mines:-

- 1) Bedwas – Bedwas Navigation. Located in the Rhymney Valley, 8 miles from Newport in South Wales. Closed in 1985. See www.bedwascolliery.co.uk for details.
- 2) Blidworth – Blidworth Colliery. Located 5 miles east of Mansfield in Nottinghamshire. Closed in 1984. See <http://blidworthhistoricalsociety.co.uk/1780.html> for details.
- 3) South Kirkby – South Kirkby Colliery. Located in south Yorkshire. Closed in 1988. See www.mike-duffy.me.uk/south_kirkby_colliery.htm for details.

In the case of the diesel locomotives the tests were largely to determine their actual characteristics in relation to the design requirements, the operation of the engine and electrical equipment, engine efficiency, fuel consumption, etc. and how well, in practice, they were able to operate to the proposed timetables that had been determined from the design characteristics.

If anybody can add to this list of Bulletins I would be most interested to receive details.

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List of British Railways Performance and Efficiency Test Bulletins

Bulletin No.	Date	Loco type	Wheel arrangement	Notes
1	May 1951	GWR Hall Class	4-6-0	
2	Aug 1951	LNER B1 Class	4-6-0	
3	Oct 1951	LMSR Class 4	2-6-0	
4	Jan 1952	BR Std Class 4	2-6-0	
5	April 1952	BR Std Class 7	4-6-2	“Britannia” class
6	May 1953	BR Std Class 5	4-6-0	
7	Aug 1953	WD freight	2-8-0 & 2-10-0	
8	March 1953	LNER V2 Class	2-6-2	
9	Nov 1952	SR 1750 HP DE	1 Co-Co 1	Loco No. 10202
10	Jan 1954	SR Bulleid Merchant Navy	4-6-2	In original condition.
11	April 1959	EE Type 1 1000HP DE	Bo-Bo	Original Class 20
12	March 1960	BTH Paxman Type 1, 800HP	Bo-Bo	Original Class 15
13	July 1959	BR Std Class 9F	2-10-0	
14	Not known	Brush Type 2 1250 HP DE	A1A-A1A	Original Class 31
15	1957	BR Std Class 8, No 71000	4-6-2	“Duke of Gloucester”
16	1955	SR 2000 HP DE	1 Co-Co 1	Loco No. 10203 (an up-rated version of loco No. 10202 above).
17	Not known	Not known		
18	Not known	Not known		
19	1958 ?	EE 3300 HP DE	Co-Co	Prototype “Deltic”
20	1958	SR Bulleid Merchant Navy	4-6-2	In rebuilt condition.
21	1959	BR/AEI/Sulzer Type 2	Bo-Bo	