The Principal Chief Engineers
All Zonal Railways.

Sub: Special Drive for USFD Testing of wheel burnt/scabbed rail locations.

Recently, the prima facie cause of one derailment was reported as multiple rail fracture from location having scabbing on rail head. The fractured Rail surface indicated sizeable flaw in rail head, which should have been detected if proper USFD testing was done.

Para 7.1 (vii) of Manual for Ultrasonic Testing of Rails and Welds provides that “Rails having rust, pitting, hogging, battering of rail end, misalignment of joints, scabs, wheel burns and other surface imperfections restrict proper acoustic coupling between probe and rail table and may not permit detection of flaws. Whenever such defects are encountered, loss of back wall echo or an alarm signal is obtained. This indicates that defects if any below these patches may remain undetected. Under such circumstances hand probing may be done.”

Para 3.6 of Manual for Ultrasonic Testing of Rails and Welds provides that “For detection of transverse flaws in rail head when rail top surface is having wheel burns/scabs, a test rig with two 45° probes sending beam inward shall be used.” The checking of function and sensitivity of probes in such cases is to carried out as per Para 4.1.2 (d) of Manual. The Testing frequency and classification of defects shall be as per provisions of Para 6.6.1.1 and 6.3 respectively.

Board (ME) has directed that a Special Drive for USFD testing of wheel burnt/scabbed rail location shall be launched to complete testing of such locations within next one week. During drive, sample Test Checks shall be intensively carried out by ADEN and DEN/ Sr.DEN level. Immediate action shall be taken for replacement of defects as per provisions of Manual.

The report of drive shall be submitted to Board’s office for information of Board (ME) by 08.09.2016 positively.

Please acknowledge receipt.

(S.S.Narayanan)
Additional Member/Civil Engg.
Railway Board