

## **RETROFITMENT SCHEME FROM EDC TO MCBG**

Annexure for Requisition no.52623209 Dt 31.10.2013

### **Scope of work:**

<b>Nature of Work involved in MCBG retrofit.</b>	<b>Agency</b>	
1) Removal of unwanted items a)LCR1 and LCR2 panel,b)Existing Governor harness ,c)Engine Control Panel,d)OPS,e)ESR1,ESR2,ESR3,&ESR4 f) SAR, g)Governor bed and fuel linkage rod ,h)GE/EDC Governor,i)Gov. oil pipe lines and pump .		Shed
2) Removal of unwanted wiring:	Supplier	
a)between ECP and ESR1,2,3 & 4 relays		
b) between ECP and BKR2 relay		
c) OPS wiring. Start and stop button wiring.		
3) Fitment of additional items supplied by supplier a) Gov. Bed and fuel linkage for WW Gov-1no b)TGLR resistor panel -1no c)CPR Panel having ( 4 diodes) -1no d)Harness to convert from EDC Gov to MCBG, e) hose clamps,f) Gaskets for governor bed, 12 way terminal board- 1 no.	Supplier	
4) .Items supplied by shed for conversion a) Engine control panel suitable for Woodward governor-1no b)GP relays-3nos ( from the existing loco)  c)Push buttons along with 1NO+ 1NC for alarm& stoping the loco-2nos  d)Connecting pipe lines for FOP, LOP & BAP along with required hardware to connect the pressure sensors to Governor accutator unit.		Shed
5) Provision of Alarm push button on circuit breaker panel at suitable locations and its connections. It should be marked as "Alarm"	Supplier	
6) Verification of wiring at relays, ECP and TGLR.	Supplier	
7) Installation of MCBG as per regular installation in WW gov. equipped locos.		
A) Replacement of existing Governor base in case of GE/EDC governor		Shed
B) Removal and rerouting of Air brake and other pipelines coming behind the MCBG at the proposed lay out in the loco.		Shed
C) Removal and fitment of flooring of drivers cab to lay out cables.		Shed
D) Provision of inspection door on the nose compartment wall in case the governor is fitted on locomotives having old WDM2 type control stands.	Supplier	

E) Cutting of window slot on the nose compartment and installation of control unit.	Supplier	
F) Installation of Governor actuator unit on the base.	Supplier	
G) Connection of pressure signals 1) 1/4" 1" wallThich annealed copper pipe for FOP sensor-3.5 metres 2) 1/4" T Joint - 2 nos 3) 1/4" 1" wallThich annealed copper pipe for BAP- 01 metre 4) 3/8" 2" wall thick annealed copper pipe for LOP- 11 metres 5) 3/8" T Joint - 01 no 6) 3/8" Union nut with ferules -01 no 7) Pipe line Brackets with pipe line - 01 set	Supplier	
H) Testing of Govrnor on load box	Supplier	
<p><b><u>Assistance required from shed:</u></b></p> <p>a) Welder and welding resources for welding the TGLR resistor panel and CPR diode panel, TB brackets and cable anchoring clamps etc.</p> <p>b) Cutter with gas and cutter to make window slot in the driver cab or control unit.</p> <p>c) Carpenter to cut the window slot in the driver cab.</p> <p style="text-align: center;"><u>Man power required</u></p> <p>a) Rerouting of pneumatic pipeline connections available in the nose compartment at the backside of the control unit.</p> <p>Connection of pneumatic pipelines from loco to actuator unit</p> <p>Replacement of existing governor bed with WW governor bed.</p> <p>Connection and adjustment of fuel linkage and racks.</p> <p>a) Replacement of ECP suitable for WW Gov.  b) Identify the LWS and ETS wiring in the radiator pipeline wiring and LWS wiring bunch.  c) Lifting of cab floor for laying of MCBG cables.  Loco schematics for proper interface of ETS and LWS indication circuits.</p>		

