

## SELF GENERATION SYSTEM

In Self-Generating Train Lighting and Air Conditioned (SG TL & AC) coaches, requirement of electricity for operating lights, fans and air conditioning is fulfilled by generating by alternators driven by the axle of the coaches. Battery of sufficient Ampere Hour capacity is also connected parallel to feed the power to the coach during low voltage conditions.

Initially in these SG coaches, magnetic amplifier controlled Rectifier cum Regulator Units (RRUs) are used to convert AC output of alternator into DC and regulate/ control the DC voltage generated through the regulation of the field current of the alternator. This design of RRU was having its inherent limitations of poor voltage regulation, high content of ripples etc.

IGBT based Electronic Rectifier cum Regulator Units (ERRU) are provided in place of RRUs to regulate the alternator generation at the desired setting considering the load condition and to maintain a constant charging current for the battery and to reduce voltage as well as current ripple.

In self-generating coaches, the three phase ac supply generated by alternator is rectified and regulated by Rectifier cum Regulator Unit (RRU)/Electronic Rectifier cum Regulator Unit (ERRU). This regulated DC supply is used for charging batteries and fed to coach for electrical loads .