

GOVERNMENT OF INDIA (भारत सरकार)  
MINISTRY OF RAILWAYS (रेल मंत्रालय)  
RAILWAY BOARD (रेलवे बोर्ड)

No. 2017/Sig./Modernization/Signalling  
Director  
IRISET,  
Secunderabad

New Delhi, dated 24.10.2019

**Sub: - Organizing Technical Workshop on Automatic Train Protection (ATP) Systems with special focus on ETCS Level-2.**

Two days Technical Workshop on "Automatic Train Protection (ATP) Systems with special focus on ETCS Level-2" be organized at IRISET, Secunderabad in November, 2019.

2. Officers (JA Grade and above) from Zonal Railways, RDSO and Railway Board shall participate in the workshop.
3. Officers of Operating, Electrical & Mechanical department of Northern, North Central, Western, Central, Eastern, West Central, East Central and South Central Railways may also be invited.
4. Tentative Programme for the workshop is enclosed herewith. Dates to be confirmed by IRISET.

IRISET is requested to organize the workshop as per above directions.

This has the approval of MST.

*Pradeep M Sikdar*  
24/10/19

(Pradeep M Sikdar)  
Executive Director/Signal (Development)

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**TECHNICAL WORKSHOP ON 'ETCS LEVEL-II'**

**Program Details**

**Day 1**

**Session I**

	Time	Topic	Detailing	Presenter
	10:00 - 11:00	Introduction	ETCS Levels, ETCS II Global Scenario	
II	11:00 - 12:00	ETCS II Signalling Requirements	A Brief - Lineside Equipment, Onboard Equipment, Subsystems, Components, Brief Working	
Health Break				
III	12:00 - 13:00	ETCS II Interface Requirements	Interfacing RBC with- (i) Existing signalling Relay & Electronic Interlocking Signalling systems (ii) Lineside Equipment - balises & odometry correction (iii) Onboard Computer (OBC) - standards, protocols, issues & solutions	
IV	13:00 - 14:00	ETCS II Implementation and Validation	Implementation, Validation and Issues involved; Experience (with reference to Bar Chart of Completed ETCS II Project)	
Health Break				
<b>Session II</b>				
V	14:00 - 15:00	IR ETCS II Project	Scope, detailing and challenges	Sri Pradeep M. Sikdar ED/Sig(Dev) Railway Board
Health Break				
VI	15:00 - 16:00	ETCS II Operating Guidelines	Operating Guidelines with respect to running ETCS II for trains in a mixed mode scenario	

**Day 2**

**Session III**

VII	10:00 - 11:00	ETCS II Interoperability	Interoperability with National Railway Signalling system and TCAS	
VIII	11:00 - 12:00	ETCS II Communication Requirements	Role of communication in ETCS II, RBC-OBC Communication, RBC-CBI Communication, Global Scenario, Pros & Cons of LTE	
Health Break				
IX	12:00 - 13:00	LTE Communication I	LTE Subsystems, Components, Standby arrangements, Features, Brief Working	

X	1300 - 14:00	Communication II	Spectrum Utilisation for ETCS II, Spacing of RBC, OFC, Mobile interoperability	
Long Break				
Session IV				
XI	14:00 - 15:00		Group Discussion Question & Answers	
Health Break				
XII	15:00 - 16:00		Conclusion	

Note: Participants to design various ETCS II subsystems/subsets for a typical 200KM section