INTER PLANT STANDARD – STEEL INDUSTRY		
IPSS	**VARIABLE VOLTAGE VARIABLE FREQUENCY SYSTEM FOR FANS, PUMPS AND COMPRESSORS**	**IPSS: 1-10-041-15**
	CORRESPONDING IS DOES NOT EXIST	

0. FOREWORD

0.1 This Inter Plant Standard has been prepared by the Standards Committee on Electrical components and equipment, IPSS 1:10 with the active participation of the representatives of the steel plants, major consultancy organizations and established manufacturers of VVVF System for Fans, Pumps & Compressors and was adopted in September 2015.

0.2 Inter Plant Standards for steel industry primarily aim at achieving rationalization and unification of parts and assemblies used in steel plant equipment and accessories, and provide guidance in indenting stores or equipment (or while placing orders for additional requirements) by individual steel plants. For exercising effective control on inventories, it is advisable to select a fewer number of sizes/types from among those mentioned in this standard, for the purpose of company standards of an individual steel plants. It is not desirable to make deviations in technical requirements.

1. SCOPE

1.1 This Inter Plant standard covers the features required in Variable voltage variable frequency system for fans, pumps and compressors.

This should be read in conjunction with IPSS : 1-10-035-15(F) : Variable frequency drive(VFD) upto 690 V : Part 1 – General.

2. FEATURES REQUIRED IN VVVF DRIVE :

2.1 It shall have built in PID controller. The PID loop is used to maintain a process variable , such as pressure or flow, at a desired set point. The PID controller shall be used to vary the drive performance according to the need of the application.

2.2 It shall have built in pump and fan control feature to control pumps and fans in parallel. Here one drive controls several pumps or fans and eliminates the need for an external PLC.

2.3 The pump cleaning function shall be there in case of pumps. Forward and reverse runs of the pump to clean the impeller.

2.4 Energy saving feature shall be there.

2.5 The drive shall have variable torque application.

2.6 Sleep and boost function shall be there which detects slow rotation and runs the pump to boost pressure prior to shut down.

2.7 Level control feature in pumps.

2.8 It shall be able to display kWh.

2.9 Various stop modes as per application requirement

2.10 Shall be able to work with out encoder

2.11 Flying restart shall be there.

2.12 It shall have parameter locking facility

2.13 Facility for editing , saving and down loading parameters

2.14 Facility for graphical and numerical signal monitoring

2.15 Facility to compare current parameters with previously saved parameters

2.16 On and Off line programming capability.

2.17 Three contactor manual by pass arrangement for DOL start with bypass mode or as per the requirement

2.18 By pass control and status display with LEDs.

2.19 Remote start facility in by pass mode.

2.20 Power removal safety function shall be there to prevent motor from unintentionally restarting conforming to standard EN 954-1 : cat : 3 and IEC/EN61800-5-2.

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