INTER PLANT STANDARD – STEEL INDUSTRY		
IPSS	**SPECIFICATION FOR ONLINE ANALYZER FOR SOx AND NOx**	**IPSS:2-07-092-13**
	Corresponding IS does not exist	

0. FOREWORD

0.1 This Interplant Standard was prepared by the Standards Committee on Instrumentation and Automation, IPSS 2:7 with the active participation of the representatives of the steel plants and reputed consulting organizations and established manufacturers in this field and was adopted on August, 2013.

0.2 Inter Plant Standards on design parameters primarily aim at achieving rationalization and unification of parts and assemblies of process and auxiliary equipment used in steel plants and these are intended to provide guidance to the steel plant engineers, consultants and manufacturers in their design activities.

1. SCOPE

1.1 This Interplant Standard covers the Sox and NOx Analysis System of gas to enable the User for Proper analysis of Gas Analyser along with Sampling & Conditioning System..

2. User has to ensure the following parameters related to the gas under measurement. The suitable gas sampling and conditioning system has to be installed or to be procured along with analyzer for installation.

Temperature	0 to 50°C
Pressure	10kPa or lower (The gas outlet should be at atmospheric pressure.)
Dust	100µg/Nm3 or lower with particle size of 1µm or lower
Mist	No mist allowed.
Moisture	Saturated at 2°C (No condensation allowed.)
Corrosive component	1ppm or lower

The gas sampling system shall consist of sampling probe with filter, sample extraction pump, gas cooler with condensate extraction facility and related safety interlocks, pressure regulator, pr. and temp measurement and display facility for conditioned gas, rotameter with flow regulating facility. Dilution Air Technique can be optional.

3. Draft specification for analyzer proper is given below:

Measurement principle	Non-dispersive infrared ray system (single-beam)/ double beam
Measured component	NO: 0 to 500ppm/ 5000ppm SO2: 0 to 500ppm/ 5000ppm The measuring gadget should have an accessory to convert other components of NOx and SOx to convert to NO and SO2 respectively
Repeatability	±0.5%FS
Linearity	±0.1%FS or lower or better
Zero drift	±2.0%FS or lower/week
Span drift	±2.0%FS or lower/week
Gas extraction volume	1L/min. ±0.5L/min. Necessary pump has to be supplied
Response time	90% response from gas inlet: 15 sec. or shorter
Output signal	4 to 20mA DC corresponding to each Component Load resistance: 550Ω or higher (4-20mA DC),
External contact input (Optional for user)	Potential free contact Auto calibration start, Average value reset, Range selection, Output hold

Contact output (Optional for user)	Range identification of each component, Instrument error, Calibration error, Auto calibration in progress, Instantaneous value concentration alarm for each component, Pump ON/OFF
Auto calibration function (Optional for user)	Auto zero and span calibration (Calibration cycle settable)
Display	LCD with backlight Instantaneous value of each component, Parameter setting display
Power supply voltage	100 to 240V AC, 50 Hz, 70VA
Pump	Necessary pump has to be supplied