


INTER PLANT STANDARD IN STEEL INDUSTRY		
 IPSS	FORMAT FOR PROCUREMENT OF GEAR BOXES	IPSS:1-01-035-18 (First Revision)
	Corresponding IS does not exist	Formally : IPSS:1-01-035-95

0. FOREWORD

- 0.1 Interplant standardization in steel industry was initiated under the aegis of the Indian Standards Institution (ISI) and the Steel Authority of India Limited (SAIL). This IPSS was prepared by the standard committee on Mechanical Drives, IPSS 1:1 and adopted in December 1995. Lastly, this has been revised by the standard committee with first revision in **November, 2018** with the active participation of the representatives from major Indian steel plants and leading consultants.
- 0.2 This standard is intended to provide guidelines for procurement of gear boxes or by manufacturing in the plants own repair shops. This standard has been particularly formulated to meet replacement of the gear boxes and to ensure better vendor – vendee relationship for each other satisfaction.

1. SCOPE

- 1.1 This Inter Plant Standard covers the format for procurement of gear boxes of any type, which illustrates the information the user shall give in the enquiry for the convenience of the manufacturer as also the information which user shall seek from the manufacturer so as to facilitate the maintenance of the gear boxes including in-house manufacture of parts of the gear box.

2. INFORMATION TO BE GIVEN BY THE USER

- 2.1 The user shall give the following information in the enquiry :
- Type of gear box needed – worm over driven / under driven, spiral, bevel, helical etc.
 - Type of assembly or positioning of input and output shafts as required (scheme).
 - Input Power of Prime Mover in kW
 - Output torque
 - Input rev / Min
 - Reduction ratio
 - Details of prime mover
 - Details of driven machine

- j) Type of loading – uniform, moderate or heavy
- k) Overhung load on the output shaft
- l) Ambient service condition
- m) Constraint of floor space, if any
- n) Whether cooling is needed or not, if yes, the type of cooling
- o) Handing of gear box – Left or right hand
- p) Whether hold back is required or not
- q) Direction of rotation – unidirectional or reversible.
- r) Duration of service – whether continuous or intermittent.
- s) Gear tooth shall be Case hardened and ground unless otherwise specified.
- t) Keys and key ways shall confirm to appropriate Indian Standards.
- u) Oil level indicator
- v) Drain Plug
- w) Breather Provision
- x) Existing Gear Box make and model.
- y) For dimension refer Tender Drawings.

3. INFORMATION TO BE SOUGHT BY THE USER

- 3.1 The user shall seek the following information from the gear box manufacturer:
 - a) The reference of the standard (namely IS, BS, DIN, GOST and JIS) used in the design of the gears.
 - b) The details of the materials for shaft, gear and Housing.
 - c) The details of the bearings.
 - d) The details of the seals.
 - e) Lubricant to be used and its replacement schedule.
 - f) Natural frequencies of gear rotors and casings.
 - g) Provision of condition monitoring / analysis.
 - h) GD^2 value.
- 3.2 The manufacturer shall be asked to give general arrangement drawings showing arrangements of various components and bill of materials including the bought out items with manufacturers name / trade mark for users approval before manufacturing.
- 3.2.1 Value of Back lash and axial float.

- 3.3 The manufacturer shall be asked to give the following information on the name plate.
- Manufacturer's name / logo.
 - Serial number and year of manufacture of the gear box.
 - Designation / type of the gear box.
 - Reduction ratio.
 - Input rev/ min.
 - kW rating of reducer.
 - Type of lubricant with quantity and frequency of replacement.
 - Weight of the gear box.
 - Impression of name plate on the supply document.
 - Inspection Report & TC Certificate.

APPENDIX – A

(Clause- 0.2)

INTER PLANT STANDARDS ON GEAR BOXES

Sl. No.	IPSS Number	Description of IPSS
1.	1-01-001-18	Single stage under driven worm reduction gear box
2.	1-01-002-18	Single stage over driven worm reduction gear box
3.	1-01-012-18	Single horizontal helical gear box
4.	1-01-024-18	Code of practice for selection of gear boxes.

Note- Also see IPSS 1-02-013-18 for reference of Rotary shaft oil seal units.
