Triveni TURBINES

FORMAT FOR TURBINE NAME PLATE DETAILS

FORMAT NO.	**SSD/FOR/250**		**DATE**	6-12-2018
PROJECT	M/s M.R. Krishnamurthy Coop. Sugar Mill Ltd. Sethiyatope, Tamil Nadu			
TURBINE DETAILS	**FR. SIZE**	**SR. NO.**	**POWER**	**DRIVEN EQUI. /MAKE**
	Fr-525 M.M.	53	350 BHP	Mill- 1

TURBINE DATA

Contract No.:		Year of Manufacture:	
STEAM PARAMTERS	PRESSURE	FLOW	TEMPERATURE
Inlet	40 Kg/cm2		734 degF
Extraction	----		
Bleed	----		
Exhaust	1.0 Kg/cm2		
Turbine RPM	6637.5 RPM		
1st Critical Speed Range	----		
Over speed Trip Range	7300 – 7630 RPM		

GEARBOX DATA

Make – TTL			
Model		Serial no.	
Power		Gear Ratio	
Order No.		Service Factor	
Input/output		Teeth Gear/Pinion	
Oil Details (as mentioned on name tally)			

ALTERNATOR DATA

Make- N.A.		Machine No.	
Type		Serial no.	
Voltage		Current	

Remarks:
All as per nameplate observed
Result:

TTL ENGINEER		**CLIENT'S REPRESENTATIVE**	
Name	J. Bhowal / B. Nagababu	**Name**	V Sengutuvan
Signature		**Signature**	

FORMAT NO: SSD/FOR/217

Triveni TURBINES

FORMAT FOR STEAM PATH

FORMAT NO.			DATE	6-12-2018
PROJECT	M/s M.R. Krishnamurthy Coop. Sugar Mill Ltd. Sethiyatope, Tamil Nadu			
TURBINE DETAILS	FR. SIZE	SR. NO.	POWER	DRIVEN EQUI. /MAKE
	Fr-525 M.M.	053	600 BHP	Mill

S.NO	LOCATION	DESIGN VALUE	ACTUAL MEASURED
1	HP Laby Clearance		----
2	Inter stage laby clearances		
2.1			N.A.
2.2			
2.3			
2.4			
3	LP Laby Clearance		-----
4	Nozzle to Blade Clearance		
4.1	1st stage		3.0
4.2	2nd stage		2.9
5	Shroud to Tip Seal Clearance		
5.1			N.A.
5.2			
5.3			
6	Shroud to Nozzle Clearance		
6.1	1st stage		2.5
6.2	2nd stage		2.3
RUN OUTS ON ROTOR AT DIFFERENT LOCATIONS (in mm)			
1.	Rotor Trip Shaft collar		0.06
2.	Rotor Front Bearing journal		0.01
3.	H.P Laby journal		0.03
4.	Center of Rotor		---
5.	L.P Laby Journal		0.04
6.	Rotor After Bearing Journal		0.00
7.	Coupling Flange		0.00

FORMAT NO: SSD/FOR/217

Triveni TURBINES

RUN OUTS ON HIGH SPEED COUPLING IN COUPLED CONDITION			
1.	H.S Coupling flange at rotor end		----
2.	H.S Coupling flange at Pinion end		----
OIL SEAL LABY CLEARANCES			
1.	Rotor front Oil Seal laby clearance		---
2.	Rotor after oil seal laby clearance 1st		---

- **REMARKS:**
- **RESULT:**

- **Note:**

- Rotor is in active side during inspection of Shroud to nozzle clearance and nozzle to blade clearance.
- Put additional sheet if require
- All Radial clearances checked by Tape test.

TTL ENGINEER		**CLIENT'S REPRESENTATIVE**	
Name	J. Bhowal / B. Nagababu	**Name**	V Sengutuvan
Signature		**Signature**	

Triveni TURBINES

FORMAT FOR ROTOR DUMP TEST (Axial Movement-Load on Thrust Pads)

FORMAT NO.	SSD/FOR/220		DATE	6-12-2018
PROJECT	M/s M.R. Krishnamurthy Coop. Sugar Mill Ltd. Sethiyatope, Tamil Nadu			
TURBINE DETAILS	FR. SIZE	SR. NO.	POWER	DRIVEN EQUI. /MAKE
	Fr-525 M.M.	053	600 BHP	Mill

- **CASE-1: TOP CASING OPEN**

PARAMETER	RECOMMENDED (mm)	ACTUAL(mm)	Further movement restricted by
Active Dump	1.20-2.50	1.09	
Non-Active Dump	0.25-1.00	0.76	
Open Float	0.35-0.55	0.28	
Total Dump (Sum)	2.00-4.00	1.60	

- **CASE-2: TOP CASING BOX-UP**

PARAMETER	RECOMMENDED (mm)	ACTUAL(mm)	REMARKS
Active Dump	1.20-2.50	1.09	
Non-Active Dump	0.25-1.00	0.76	
Open Float	0.35-0.55	0.28	
Total Dump (Sum)	2.00-4.00	1.60	

NOTE :

- Recommended value may vary from site to site and model to model. In case of any deviation please consult Office.
- Lower range recommended values are for Smaller Turbine models.
- Higher range recommended values are for Bigger Turbine models.
- There should not be major change in readings after tightening of Top Casing.
- **RESULT:-**
  All ok and satisfactory

- **REMARKS:-** All ok and satisfactory

TTL ENGINEER		CLIENT'S REPRESENTATIVE	
Name	J. Bhowal / B, Nagababu	Name	V. Senguttuvan
Signature		Signature	

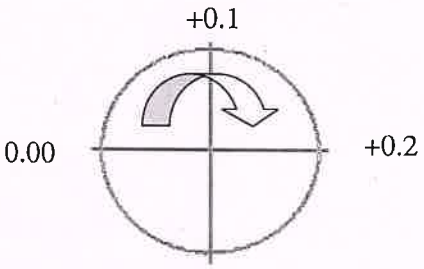
Triveni TURBINES

FORMAT FOR HIGH SPEED ALIGNMENT

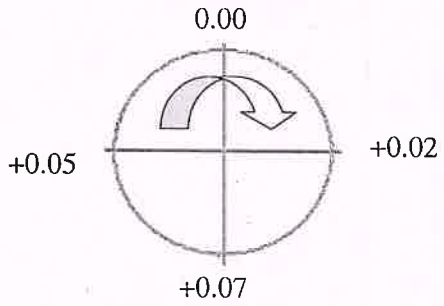
FORMAT NO.	SSD/FOR/225		DATE	
PROJECT	M/s M.R. Krishnamurthy Coop. Sugar Mill Ltd. Sethiyatope, Tamil Nadu			
TURBINE DETAILS	FR. SIZE	SR. NO.	POWER	DRIVEN EQUI. /MAKE
	Fr-525 M.M.	053	600 BHP	Mill

- **HIGH SPEED ALIGNMENT READING:**

RADIAL



AXIAL



  - **Looking from** : Turbine End
  - **Dial Pointer on** : Pinion Shaft Flange
  - **Rotation** : Clockwise
  - **DBSE** : _____mm
  -

- **LEVEL: MASTER LEVEL ON GEAR JOURNAL**
  - **NDE on X axis** _____ up towards _____

- **REMARKS:-**

- **RESULT:- OK**

TTL ENGINEER		CLIENT'S REPRESENTATIVE	
Name	J. Bhowal / B, Nagababu	Name	N. Sangutuvan
Signature		Signature	

FORMAT FOR PRESERVATION OF TURBINE AFTER OVERHAULING

FORMAT NO.	SSD/FOR/246		DATE	6-12-2018
PROJECT	M/s M.R. Krishnamurthy Coop. Sugar Mill Ltd. Sethiyatope, Tamil Nadu			
TURBINE DETAILS	FR. SIZE	SR. NO.	POWER	DRIVEN EQUI. /MAKE
	Fr-525 M.M.	053	600 BHP	Mill

S.no	Activities	Observations	Remarks
1	Check auto/start stop of Barring gear and its interlock with lube oil	N.A.	
2	TG set should be put on Barring gear once in a week	N.A.	
3	Check for lube oil circulation in all bearings	Checked	Satisfactory
4	Spray anti-corrosive paint on the turbine internals (thickness of the paint should be as minimum as possible)	Graphite powder sprayed	Satisfactory
5	Use of de-humidifier (if available)	N.A.	

Note- If shutdown is more than one month use anti-corrosive paint.

- **REMARKS:**

All ok and satisfactory

- **RESULT:**

TTL ENGINEER		CLIENT'S REPRESENTATIVE	
Name	J. Bhowal / B. Nagababu	Name	V. Sangutuvan
Signature		Signature	

FORMAT NO: SSD/FOR/219

Triveni TURBINES

FORMAT FOR TG SET FINAL BOX UP

FORMAT NO.			DATE	12-12-2018
PROJECT	M/s M.R. Krishnamurthy Coop. Sugar Mill Ltd. Sethiyatope, Tamil Nadu			
TURBINE DETAILS	FR. SIZE	SR. NO.	POWER	DRIVEN EQUI. /MAKE
	Fr-525 M.M.	053	350 BHP	Mill-1

INSPECTION SCOPE : Bearing Clearances and Float

FLOATS:

Rotor:- 0.28 mm
Pinion:- 1.05 mm
Gear:- 0.20 mm
Lay shaft:- N.A.

CLEARANCES:-

Location	Type of Bearing	Clearances (in mm)
Rotor Fore	Plain bearing	0.31
Rotor After	Plain bearing	0.29
Pinion Fore	Plain bearing	0.28
Pinion After	Plain bearing with thrust	0.28
Gear Fore	Plain bearing	0.34
Gear After	Plain bearing with thrust	0.24
DE side Alternator	N.A.	
NDE side Alternator	N.A.	
Lay shaft Fore/ After	N.A.	

Triveni TURBINES

- **BACKLASH:**

Lay shaft & Trip Gear	N.A.
Worm & Worm wheel	0.20 – 0.30 mm
Gear & pinion	0.53 mm

- **TEETH CONTACT**

Tooth contact of lay shaft & trip shaft spur gear	N.A.
Tooth contact of worm and worm wheel	-----
Tooth contact of Gear & Pinion	75 - 80%

- **ID MARK**

ID mark of Pinion	---
ID mark of Gear	----
ID mark of high speed coupling	----
ID mark of low speed coupling	----
No. of share pin	N.A. (spigot)

- **ALTERNATOR**

Alternator Stator to Rotor Air gap	**Min:-**	**Max:-**
Exciter Stator to Rotor Air gap	**Min:-**	**Max:-**

- **REMARKS:-**

1) Gearwheel after bearing replaced with re-babbited bearing which is not recommended from TTL point of view due to poor white metal quality and will not guarantee trouble free running during season
2) Gearwheel fore bearing observed worn out with clearance is on higher side and could not be replaced due to non availability of spare bearing. Will be replaced in next overhauling season

TTL Engineer		**Client's Representative**	
Name	J. Bhowal / B. Nagababu	**Name**	Mr. V Sangattuvan
Signature		**Signature**	