

40 KW MICRO HYDRO TURBINE AT TANSA DAM

#Problem faced by Client:

Irregular supply of power in Tansa Dam vicinity

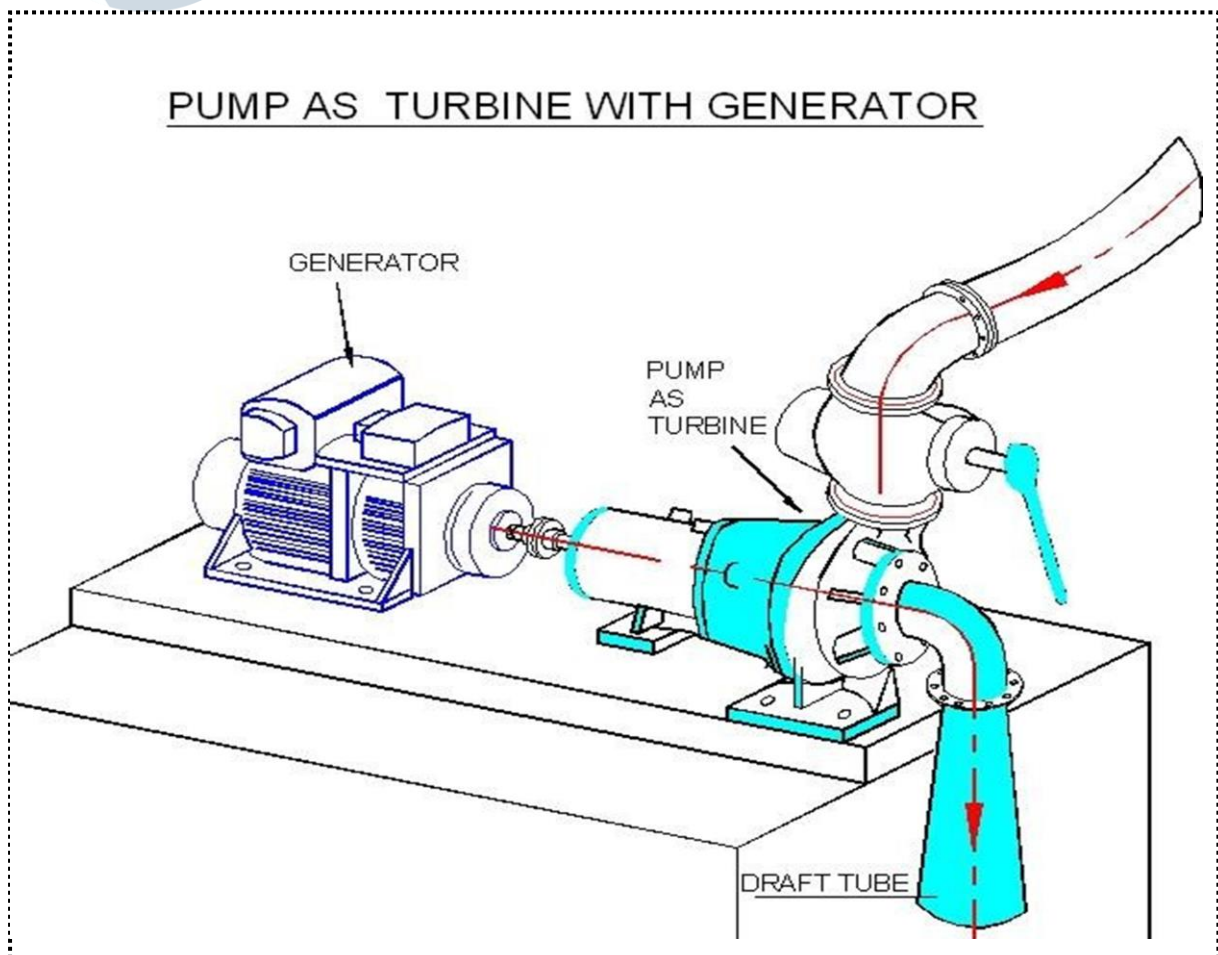
#VEMC Key Role:

VEMC conducted site survey and observed that there is a potential for generating power without compromising the water supply and accordingly suggested MCGM to install a hydro turbine for generating electricity to meet their day to day power requirement.

#Report made by VEMC :

Tansa Dam is one of the key Dams to supply drinking water to Mumbai city. Water being supplied through cross country pipelines having potential head and this head could be used to generate electricity, which latter can be used in vicinity as the Dam being situated in rural area where energy from MSEB is not regular.

Hence, this project came into existence where MCGM awarded us with the contract for Designing, Supplying, Installation, and Testing & Commissioning of the system at site. This has been **FIRST** such installation in MCGM.



Technical Information:

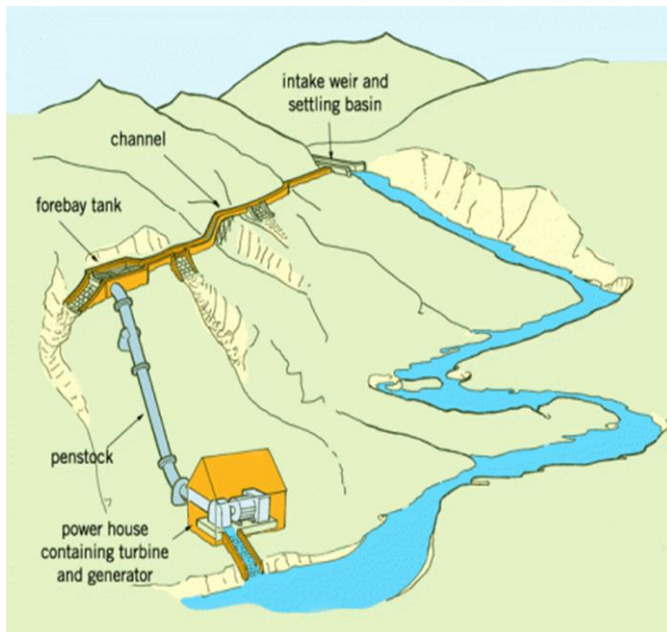
Micro hydro systems

“Micro” Hydro systems typically refer to hydro power systems that have a power output of 40 KW. The systems are mostly designed to provide power for household use and small communities. The major advantage of this system when compared to other renewable energy technologies is that, if enough water is available, it can provide a constant and/or predictable power supply, whereas other technologies (specifically wind and solar power) provide intermittent or unpredictable energy.





A complete Micro Hydro system consists of the following major components, which are discussed in this section.



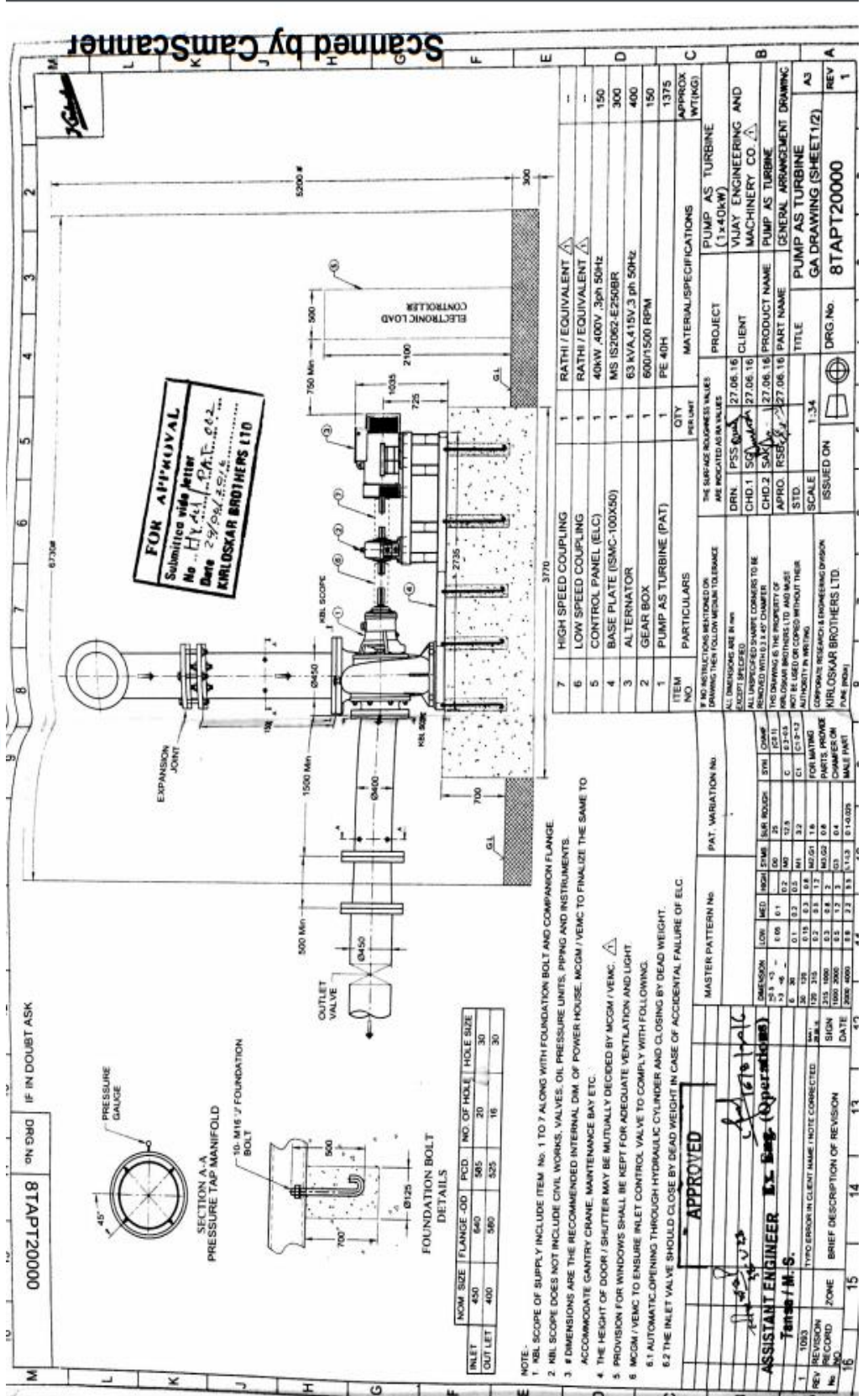
- Water filtering mechanism
- Penstock with valves
- Turbine
- Power-converting device (Generator or direct-drive)

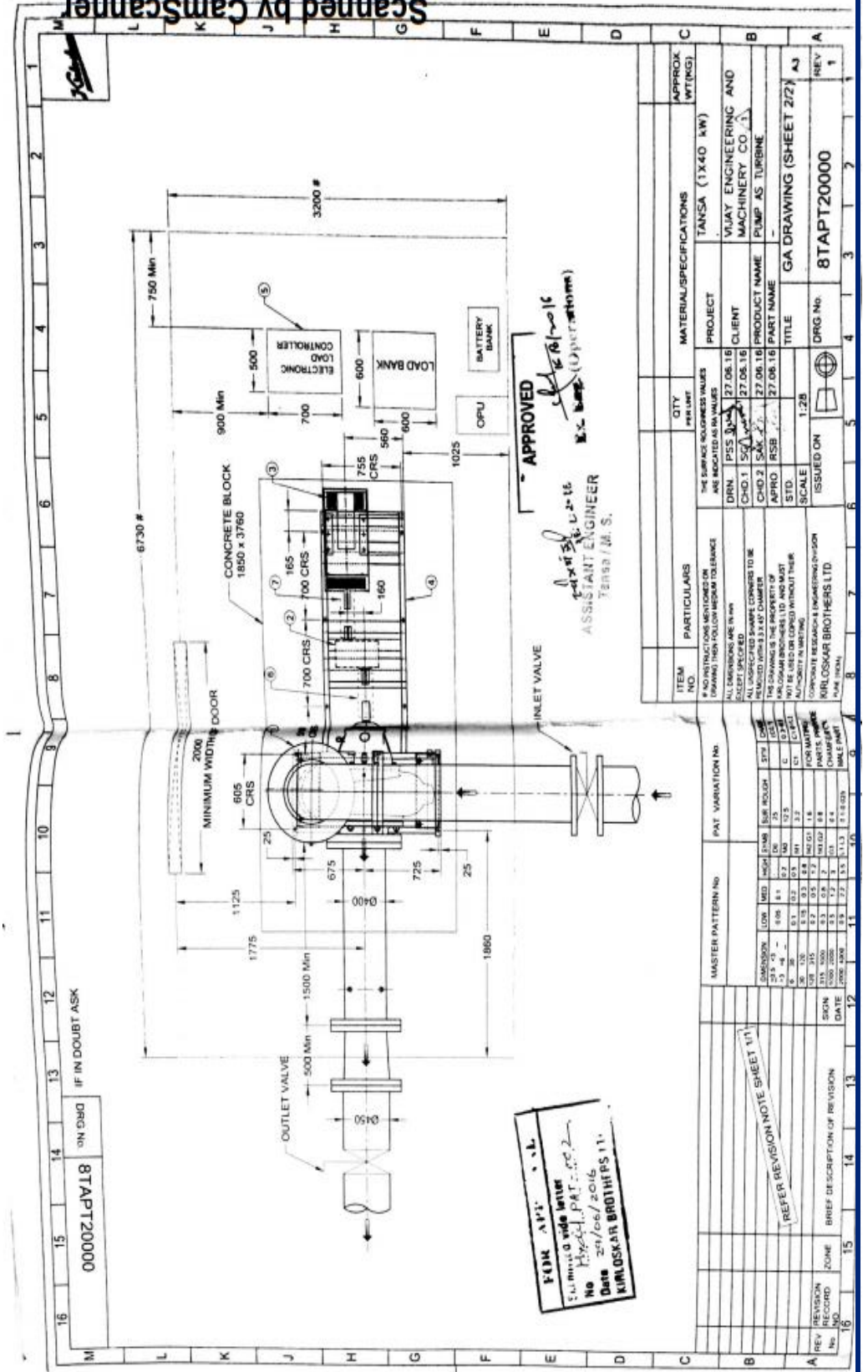
VEMCs role include provision of the PAT system (Pump as turbine system) a M/s. Kirloskar Brothers Limited make pump. The system would then be tested at kirloskar plant for the duty parameters and will be supplied and installed on existing pipeline. The potential energy stored by means of available head, would be used to generate 40 KW of energy.

System Potential

- O/P up to 100 KW
- Can be installed in rural and remote areas
- The Electrical & Mechanical Systems are easy and economic to source
- Easy to Install, Operate and Maintain
- Almost no adverse impact on environment

GA Drawings of the pump:





FOR APPT. S.L.
 S.L. must be a wide letter
 No. 10000 PAT. 2016
 Date 20/06/2016
 KIRLOSKAR BROTHERS LTD.

APPROVED
 16/06/2016
 S.S. Kulkarni (Operations)
 ASSISTANT ENGINEER
 Tansa / M. S.

ITEM NO.	PARTICULARS	QTY	MATERIAL/SPECIFICATIONS	APPROX. WT (KGS)
	THE SURFACE REQUIREMENTS AND FINISHES		TANSA (1X40 KW)	
	NO INSTRUCTIONS MENTIONED ON THE DRAWING SHALL FOLLOW THE TOLERANCE UNLESS SPECIFICALLY MENTIONED OTHERWISE		PROJECT	
	ALL DIMENSIONS ARE IN MM		CLIENT	
	ALL DIMENSIONS SHALL CONFORM TO BE REFERRED WITHIN 3.2 X 45° DIAMETER		PRODUCT NAME	
	THE DRAWING IS THE PROPERTY OF KIRLOSKAR BROTHERS LTD. IT SHALL NOT BE USED OR COPIED WITHOUT THEIR AUTHORITY IN WRITING		PART NAME	
	COMPARE RESEARCH & ENGINEERING DIVISION		TITLE	
	SCALE	1:25	GA DRAWING (SHEET 2/2)	
	ISSUED ON		DRG No.	
			8TAPT20000	
			REV	
			1	

REFER REVISION NOTE SHEET 1/1

MASTER PATTERN No.	PAT. VARIATION No.	SMOOTHEN	LOW	MID	HIGH	FINISH	SAW	ROUGH	STP	DATE
25.5 - 0	0.06	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.75	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0

REV	REVISION	ZONE	DATE	DESCRIPTION OF REVISION
1				

