

Plant Operation Philosophy – Effect of increasing capacity at the same site

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Projected Supply & Demand of LPG



(Figs. In TMT)

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2021-22
Industry Demand	15943	18162	19533	20653	21531	23888
Indigenous production	9891	11635	12623	13312	13825	15354
Import	6153	6527	6910	7341	7706	8534

Source Details - 

Bottling Capacity – Industry 01.01.2014

	Bottling Plants (nos)	Rated Bottling Capacity (TMTPA)	Asst. from Pvt. Bottler (TMTPA)
IOC →	90	7170	142
BPC →	50	3005	217
HPC →	46	2960	220
Total	186	13135	579

PPAC Data

Actual Sale – 2012-13

(Figs. In TMT)

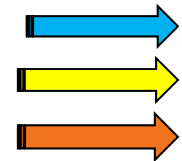
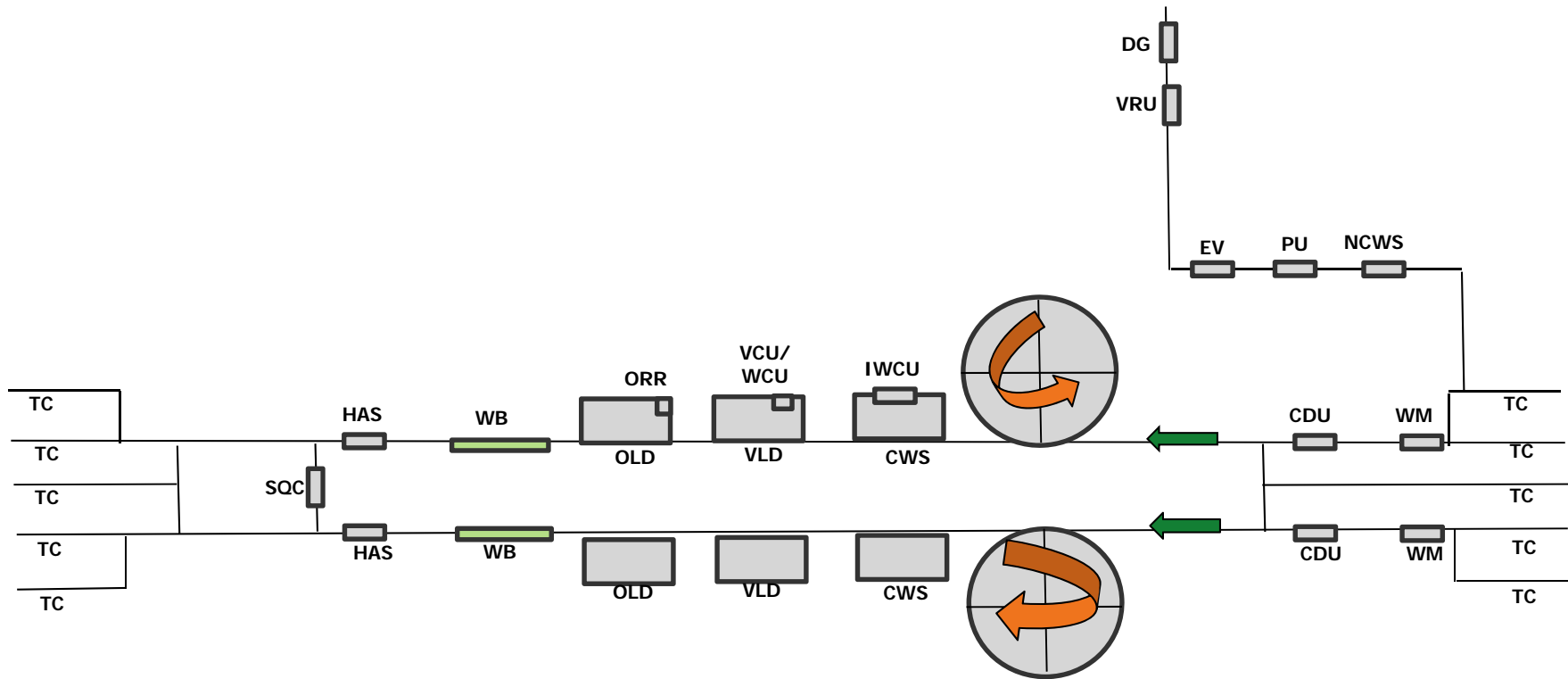
	Domestic	NDNE	Bulk	Auto	TOTAL
IOC	6596	413	80	111	7200
BPC	3460	361	63	50	3934
HPC	3555	352	113	53	4073
TOTAL	13612	1126	256	214	15207

Total Pkd	14738
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Bottling Cap.	13135
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Difference	1603
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Conveyor Layout



Bottling Rate & Capacity

Bot.cap Designed (TMTPA)	No. x Sh.	Cyl/hr	Hrs.	Total Nos .	MT	TMTPA
30	1*C x 1*S	1600	8	12800	181.76	55
60	2*C x 1*S	3200	8	25600	363.52	109
120	2*C x 2*S	3200	16	51200	727.04	218
180	3*C x 2*S	4800	16	76800	1090.56	327
30	1*C x 1*S	1200	8	9600	136.32	41
60	2*C x 1*S	2400	8	19200	272.64	82
120	2*C x 2*S	2400	16	38400	545.28	164
180	3*C x 2*S	3600	16	57600	817.92	245
30	1*C x 1*S	1400	8	11200	159.04	48
60	2*C x 1*S	2800	8	22400	318.08	95
120	2*C x 2*S	2800	16	44800	636.16	191
180	3*C x 2*S	4200	16	67200	954.24	286

Bulk Unloading Capacity

Plant Capacity	Bays in TLD	Batch per day	No. of TTs	Capacity (MT)	Total MT unloaded	TMTPA
30	4	4	16	17.5	280	84
30	6	2	12	17.5	210	63
60	6	4	24	17.5	420	126
60	8	2	16	17.5	280	84
120	8	4	32	17.5	560	168
180	12	4	48	17.5	840	252
240	16	4	64	17.5	1120	336

Rail fed plants 
Pipeline fed plants 

Sample Manpower Benchmark

Capacity (TMTPA)	Shift	Officer	BCW	WCW	Haulage	House-keeping	Loading /unloading	Security	M&R/PMCC	Total
30	I	6	9	3	8	6	8	12	3	55
30	II	7	11	3	18	6	10	12	3	70
60	I	7	13	4	9	8	16	15	4	76
60	II	9	22	4	20	8	16	15	4	98
120	II	11	30	5	32	11	32	22	5	148
180	II	13	40	5	44	11	40	28	5	186
240	II	14	56	5	58	11	64	30	5	243

Figures excludes the manpower in Canteen, Packed & Bulk TT crew.

Work stations 

Issues with Augmentation

Power Requirement :

- Connected loads
- Use of Equipments for critical path
- Revision in contract demand of the plant
- Upgradation of facility
- Additional DG set
- Modification in PMCC
- Stand by Units

Issues with Augmentation

Air Requirement :

- Capacity of Air Compressor (Cu.mtr/hr)
- KW/ HP requirement of motor
- Stand by Unit
- Air pressure required in the shed

Issues with Augmentation

Bulk TT Requirement :

- Demand / Bottling in MT
- RTD of plant from the source
- No. of sources
- No. of bays in TLD
- No. of batches to be unloaded in a shift
- Capacity of LPG Compressor
- Days coverage and storage available at the plant
- Mode of Transport

Issues with Augmentation

Packed TT Requirement :

- Daily loading capacity
- RTD of market from the Plant
- Detention at distributor end / enroute
- Repair and Maintenance

Issues with Augmentation

Parking facility for Bulk TTs :

- Bulk storage at plant
- Bottling capacity
- RTD of source from plants
- Days coverage
- Daily unloading capacity
- No. of TTs attached with the plants
- Parking slot for TTs within the available area

Issues with Augmentation

Parking facility for Packed TTs :

- Bottling capacity
- RTD of market from plants
- Field cylinder storage area
- No. of packed trucks attached with the plants
- Parking slots for packed trucks within the available area

Issues with Augmentation

STP of cylinders :

- No. of cylinders received on daily basis
- Average segregation of STP due cylinders
- No. of STP vendors attached with the plant
- Capacity & facility available with STP vendor
- Distance of STP premises from plant
- No. of cylinders to be issued to party
- Transportation arrangement
- Storage capacity of test due cylinders at Plant
- Security deposit / safe custody deposit amount

Fire Protection System

- No change, if capacity augmented in the existing shed
- No change, if length of the shed is increased
- Revised water calculation, if width of the shed is increased
- Revised water calculation for extension in TLD
- No. of fire engines to be reassessed
- Water storage capacity to be reassessed
- Reassessment of water calculation in case additional shed is constructed
- No change, if additional pump is installed in the same product pump house
- Revised water calculation to be done in case of extension of shed

Thank You