Subject: Proposal of expansion of manufacturing capacity from 415 TPD to 655 TPD within the existing site area located at Sy. No.s 29 to 45, 83/1 and 83/3, RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh by **M/s. LG Polymers India Pvt. Ltd.**

Project proposal:

M/s. LG Ploymers India Pvt. Ltd. has valid consent for operation vides order no. APPCB/VSP/VSP/14082/HO/CFO/2017 dated 19.01.2017 valid till 31.12.2021. It is proposed to expand the manufacturing capacity from 415 TPD to 655 TPD in an existing area of 213 acres. The capital cost for expansion is Rs. 168 crores, towards, additional production block, utilities and enhancement of treatment system at Sy. No.s 29 to 45, 83/1 and 83/3, RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh. The proposed expansion has employment potential of 300 nos.

The site is having a longitude 83°12'34"E and latitude 17°45'23"N. The plant site is surrounded by Road connecting Araku – Visakhapatnam in north direction, Shimhachalam North RS in south direction, and open lands in west direction and Prahalada nagar in east directions. The main approach road is Road connecting Araku – Visakhapatnam in north directin. The nearest habitation is RR Venkatapuram in west direction at a distance of 0.1 km in west direction. There are three reserve forests in the study area. Narava RF is at a distance of 5.2 km in east direction, Yerrakonda RF is at a distance of 4.3 km in northeast direction, Kambalakonda RF is at a distance of 5.4 km in northeast direction and Kailasakonda forest is at a distance of 0.5 km in east direction. Meghadri Gedda Reservior is at a distance of 2 km in northwest direction. There are no national parks, sanctuaries, ecologically sensitive areas, critically polluted areas and interstate boundary within the impact area of 10 km.

Manufacturing Capacity

S.No	Name of Product	Capacity (TPD)		
		Permitted	Proposed	Total After Expansion
1	Polystyrene	313	137	450
2	Expandable Polystyrene	102	103	205
	Total	**415**	**240**	**655**

List of Utilities

S. No	Description	Unit	Capacity		
			Existing	Proposed	Total after expansion
1	Oil Fired Boilers	TPH	1 x 5	1 x 5	2 x 5
			1 x 8		1 x 8*
2	Themic Fluid Heater	K.Cal/hr	1 x 10 Lac		1 x 10 Lac
			1 x 12 Lac		1 x 12 Lac
3	DG Set**	KVA	1 x 500	1 x 1500	1 x 500
			4 x 1000#	1 x 1000	2 x 1500
					3 x 1000

** 1 x 8 TPH Furnace oil fired boiler shall be kept as standby after expansion.*

***DG sets will be used during load shut down by Transco.*

 # Existing 1 x 1000 kVA out of 4 x 1000 kVA will be replaced by 1 x 1500 kVA after expansion

Process Description

I. General Purpose Polystyrene (GPPS): GPPS is produced by continuous bulk polymerization of styrene monomer carried in two stages through Reactor and Tower process. The final polymer extruded and palletized to cylindrical solids granules in USG system. Product is packed in 25 kg bags. Unconverted styrene recycles back into process.

II. Expandable Polystyrene: Raw materials are added to the reactors as per recipe and reactor temperature is increased to 90° C and continuously stirred until desired bead size is obtained. Afterwards, pentane is added into beads and the mass is heated further and cooled. After cooling, the reactor mass will be transferred to acidification tank.

Acidification and Homogenization

In acidification tank mass is treated with acid (HCl) to remove the traces of TCP, then it is passed through dewatering screen where acidic water and fines are separated. Desired product will be sent to homogenization tank, where homogeneous slurry will be made by mixing with water and then slurry goes to centrifuge for further processing.

Centrifuging, Drying and Screening:

Slurry is fed to Centrifuge and EPS beads will be separated from water. Product is sent to cyclone through flash duct and sent to screening for separation in to different sizes.

Coating and packing.

Beads are coated with required additives in paddle mixer, and transferred to drum hoppers where they are stored and packed.

Sources of Air Pollution

It is proposed to establish Furnace Oil fired boiler of capacity 1 x 5 TPH in addition to existing 1 x 5 TPH and 1 x 8TPH Furnace Oil fired boilers. It is proposed to keep existing 1 x 8 TPH boiler as standby after expansion. No additional Thermic fluid heaters are proposed, existing 1 x 10 Lac K. Cal/r anf 1 x 12 Lac K.Cal/hr thermic fluid heaters will meet the requirement after expansion. DG sets of 1 X 1500 kVA and 1 x 1000 kVA are proposed in addition to existing 1 x 500 kVA and 4 x 1000 kVA for emergency power requirement during load shut down period only. Existing 1 x 1000 kVA DG set will be replaced by 1 x 1500 kVA after expansion. Boilers, Thermic fluid heaters and DG sets shall be provided with effective stack heights as controlled equipment.

Water requirement and its management:

Water is required for process, cooling tower makeup, steam generation and domestic purposes. The required water shall be met from Municipal (GVMC) supply. The total water requirement is in the order of 960 KLD after expansion. The main sources of effluent generation from the plant are process, blow downs from utilities like cooling tower, boiler, RO/DM rejects and domestic effluents. The process, utility blow downs and RO/DM rejects are sent to ETP and treated wastewater reused for greenbelt

development. Domestic wastewater sent to STP and treated wastewater reused for greenbelt development

Green belt Development:
72 acres of land of the total land area is developed as green belt.