

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

IA NO. OF 2020

IN

ORIGINAL APPLICATION NO. 73 OF 2020

IN THE MATTER OF:

In Re: Gas Leak at LG Polymers Chemical Plant in RR Venkatapuram
Village in Andhra Pradesh

LG Polymers India Pvt Ltd.

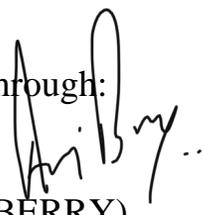
... Answering Respondent

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VOLUME –II

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DATED: 09 November 2020

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EXPERT OPINION BY DR. PAUL NONY [CTEH]
ON IMPACT ON HEALTH AND ENVIRONMENT

1.0 Introduction and Qualifications

I am a Principal Toxicologist and Director of Toxicology and Occupational Health at CTEH, LLC (CTEH®). CTEH® has several specialties including toxicology, human health risk assessment, industrial hygiene, indoor air quality, and chemical emergency response.

I hold a Bachelor of Arts degree in Biology from Hendrix College in Conway, Arkansas, USA (1996) and a Ph.D. degree in Interdisciplinary Toxicology from the University of Arkansas for Medical Sciences in Little Rock, Arkansas, USA (2001). Since receiving my Ph.D. in Interdisciplinary Toxicology, I have been actively involved in the areas of toxicology and industrial hygiene. From 2001-2003 as a postdoctoral fellow, I conducted human cancer research at the National Institute of Environmental Health Sciences in Research Triangle Park, North Carolina, USA. Since 2003, I have been active at CTEH® as a consultant in the areas of human and environmental toxicology and industrial hygiene and have been involved in hundreds of projects involving the assessment of chemical exposures and their effects on humans and the environment. As a toxicologist and emergency responder, I routinely assist in the determination of disease causation by evaluating chemical exposures and the scientific evidence relating exposures to human diseases according to the methodology of toxicological causation analysis. In addition, I am certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene (CIH #11135CP) and am a Certified Safety Professional (CSP #33934) as determined by the Board of Certified Safety Professionals.

I am a member of the Society of Toxicology, the South Central Chapter of the Society of Toxicology, the Occupational and Public Health Specialty Section of the Society of Toxicology, the American Industrial Hygiene Association, and the American Conference of Governmental Industrial Hygienists. I have written numerous peer-reviewed publications in toxicology and related fields. A list of my publications is included within my attached curriculum vitae (**Appendix A**).

Toxicology, a blend of biology, chemistry, and medicine, is the science of the adverse effects of substances (*e.g.*, chemicals, physical agents, drugs) on biological systems including the effects, the recognition, and the mechanisms of a chemical-related disease. Whether a substance is toxic depends upon two inseparable criteria: 1) the intrinsic nature of the substance, and 2) the dose, or how much of a substance the individual actually takes into their body. In toxicology, we study the dose-response of chemicals on biological systems, with emphasis on understanding the mechanisms of harmful effects. Toxicologists also provide expert opinions with respect to causation in toxic tort litigation. As stated by the Federal Reference Manual on Scientific Evidence (Federal Judicial Center, 2011), “In tort litigation, toxicologists offer evidence that either supports or refutes plaintiffs’ claims that their diseases or injuries were caused by chemical exposures.”

2.0 Scope and Mandate

I was asked to review the available information regarding the styrene vapour release incident of 07 May 2020 at the LG Polymers India (LGPI) factory in Visakhapatnam, Andhra Pradesh, India and to provide opinions on the potential human health effects of styrene vapour. I was also asked to review the findings contained in the Interim and Final Report of the Joint Monitoring Committee constituted by the National Green Tribunal (NGT). The committee constituted by the NGT (NGT Committee) has issued two reports; an Interim Report dated 17 May 2020 (Interim Report) and a Final Report dated 28 May 2020 (Final Report) (Collectively referred to as the NGT Reports). The opinions stated in this report are based on my education, training, and experience in the fields of toxicology, industrial hygiene, chemical emergency response and chemical safety and my review of the referenced information. All of my opinions in this report are stated to a reasonable degree of scientific certainty based on the information currently available to me.

The comments and opinions expressed here are restricted to the contents of the reports prepared by the NGT Committee. Many facts remain unknown regarding the impacts to people as a result of the incident at LGPI. I reserve the right to update my opinions and supplement this preliminary report as more needed information is made available.

3.0 Sources of Information and Materials Reviewed

In formulating my opinions for this report, I have reviewed materials produced by LGPI, including documents related to photo and video documentation before and after the incident, air monitoring data, safety and compliance documentation, meteorological data, environmental sampling reports, and other technical information about the LGPI plant and the events of 07 May, 2020. I have also participated in interviews of LGPI employees who were present at the factory at the time of the incident, were responders to the factory upon notification of the incident, or otherwise had information pertinent to my evaluation of the incident. In addition, I have reviewed scientific literature concerning the toxicology of styrene and styrene inhibitors, including the studies cited in this report. These types of materials are scientific resources that are used to support the expert opinions of toxicologists in matters regarding allegations of exposure and the risk of resulting health effects. A list of the documents I have reviewed that are specific to this case is set forth in **Appendix B**. In addition to these materials, I am also drawing upon my education, training, and experience.

4.0 Preliminary Observations

Through my preliminary investigation of the facts currently available on the details of the LGPI styrene gas release and the known chemical and physical properties of styrene monomer, I make the following preliminary observations to a reasonable degree of scientific certainty based on available information.

- The styrene release on 07 May 2020 at the LGPI factory was a short-term event that was mitigated within 24 hours of onset with transient impacts to offsite locations.
- Styrene monomer is short-lived in the environment. It does not cause chronic or delayed health effects as a result of short-term, acute exposures. Styrene also does not significantly

bioaccumulate (build up in organs or tissues) in people, wildlife, biota, or plants as a result of short-term, acute exposures. In fact, following an investigation in and around the LGPI facility and the neighboring community that concluded on 10 May, 2020 (3 days after the release), the team representing the National Environmental Engineering Research Institute (CSIR- NEERI) and the CBRN Expert Team of 5th Battalion, NDRF, determined that it was safe for all residents to return to their homes (as set forth in the report dated 14 May 2020 referred to as the NEERI – CBRN Report henceforth).

- To my knowledge, in over 90 years of commercial production and use, there have been no reports of human fatalities resulting from inhalation of styrene vapours. There is thus no reason that LGPI could have anticipated the possibility of fatalities from a styrene vapour release from its plant.
- The levels of styrene exposure would most likely have been highest within the LGPI plant and near Tank M6. However, LGPI responders onsite experienced only short-term health effects such as skin and eye irritation and breathing discomfort, which is consistent with the expected health effects of styrene vapour exposure. The one responder who had direct chemical exposure at the tank during the initial approach incurred skin blistering but sustained no serious internal injuries. This dermal injury was due to spillage of NDM/TDM inhibitor, rather than styrene vapor exposure. There were no more serious effects to the responders onsite, and no responder fatalities. Thus, if the highest exposure levels nearest the tank did not result in serious injuries or fatalities, then reports of such effects at much greater distances must be questioned.
- I have reviewed limited medical records (**Appendix C**) of a resident in the community who had pre-existing conditions and symptoms that could not be related to exposure to styrene, highlighting the importance of objective medical evidence in the evaluation of the impacts of this event to each individual.
- Many reports in the media of impacts to the community offsite are inconsistent with the known effects of styrene vapours and must be further investigated to determine their accuracy.
- LGPI employed a robust system of air monitoring instruments to monitor styrene concentrations around the storage tanks and in other areas of the factory. These air monitoring systems were equipped with alarms that operated properly on 07 May 2020 to warn LGPI employees of the styrene release so that the factory emergency response plan could be initiated.
- Several of the findings of the NGT Committee that visited Visakhapatnam for several days beginning around 09 May 2020 are incomplete and/or incorrect. In particular, their conclusions as to the human impacts of the incident on an estimated 3000 people are premature and could not have been based on a complete investigation due to the limited time of their visit to the affected areas.
- The LGPI responders undertook broad mitigation measures in the face of a very dangerous situation that could have resulted in a catastrophic explosion with many casualties, both onsite and offsite, if not for their actions. The LGPI responders did what they were trained

to do in a styrene polymerization incident: control the reaction at all costs to prevent a catastrophic tank failure, fire or explosion.

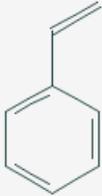
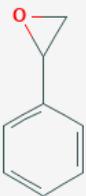
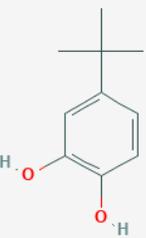
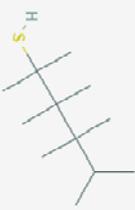
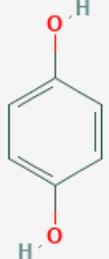
5.0 Styrene Monomer

Styrene monomer (styrene) has been produced commercially since the 1930s (ATSDR, 2010). Hundreds of thousands of workers are exposed to styrene annually in a variety of industries, including manufacture of reinforced-plastics, styrene polymerization, styrene-butadiene rubber manufacturing, at styrene-polyester resin facilities, and at photocopy centers. Styrene occurs naturally at low levels in certain foods, including meats, nuts, fruits, vegetables, and some beverages. Styrene is also found in automobile exhaust, cigarette smoke, and food packaging (ATSDR, 2010). People can detect the odor of styrene at much lower levels (as low as 0.015 ppm) than those that may cause health effects. Styrene and its metabolites can be measured in blood and urine for a short time after exposure (ACGIH, 2015).

5.1 Chemical/Physical Properties of Styrene and Related Compounds

The chemical and physical properties of styrene and incident-related compounds are provided below in Table 1.

Table 1. Physical and Chemical Characteristics of Styrene and Incident-Related Compounds

	Styrene	Styrene Oxide	4-tert-Butylcatechol (TBC)	N-Dodecyl Mercaptan (NDM)	Tertiary Dodecyl Mercaptan (TDM)	Hydroquinone
CAS Number	100-42-5	96-09-3	98-29-3	112-55-0	25103-58-6	123-31-9
Chemical Formula	$C_6H_5CHCH_2$	$C_6H_5CHCH_2O$	$C_{10}H_{14}O_2$	$C_{12}H_{25}SH$	$C_{12}H_{26}S$	$C_6H_6O_2$
Chemical Structure						
Molar mass (g/mol)	104.15	120.15	166.22	202.4	202.4	110.11
Appearance	Viscous colorless liquid	Clear, colorless or straw-colored liquid	White solid	Oily, colorless, water-white, or pale-yellow, liquid	Clear white to pale yellow liquid	Light-tan, light-gray, or colorless crystal or solution

	Styrene	Styrene Oxide	4-tert-Butylcatechol (TBC)	N-Dodecyl Mercaptan (NDM)	Tertiary Dodecyl Mercaptan (TDM)	Hydroquinone
Odor	Sweet, aromatic (pure); sharp, penetrating, unpleasant (commercial grade)	Sweet, pleasant	Phenol-like	Mild skunk odor	Repulsive, mercaptan	Odorless
Odor Threshold	0.015-25 ppm	0.06-0.4 ppm	1 ppm	0.5 ppm	0.1-0.6 ppm	N/A
Density	0.9 g/cm ³ at 25°C	1.1 g/cm ³ at 25°C	0.001 g/cm ³ at 20°C	0.84 g/cm ³ at 20°C	0.86 g/cm ³ at 20°C	1.33 g/cm ³ at 20°C
Vapour Density (air = 1)	3.6	4.3	Not available	7	7	3.8
Melting point	-30.7 °C	-35.6 °C	54.3 °C	-7.0 °C	-7.5 °C	172 °C
Boiling point	145.3 °C	194.1 °C	285.0 °C	274.0 °C	227 °C (min)	287 °C
Flash Point	31 °C	74 °C	113 °C	128 °C	90 °C	165 °C
Vapour Pressure	6.40 mmHg at 25 °C/ 855 mmHg at 150 °C	0.3 mmHg at 20 °C	0.003 mmHg at 25 °C	<1-3 mmHg at 25 °C	<1 mmHg at 25 °C	1.9X10 ⁻⁵ mmHg at 25°C/ 4 mmHg at 150 °C
Saturation Concentration in Air	5,923 ppm at 20 °C	Not available	Not available	8-9 ppm	< 10 ppm	0.01 ppm
Solubility in water	0.3-3 g/L	3 g/L	1.7 g/L	2x10 ⁻⁴ g/L	<1 g/L	72 g/L
Partition coefficient	2.95	1.61	1.98	6.18	7.43	0.59
pH	7	Not available	Not available	Not available	7.9-8.5	Weakly acidic

5.2 Summary of Styrene Toxicity and Health Effects

The possible health effects from short-term, acute exposure to high styrene concentrations are limited. Based on my current exhaustive review of the available scientific literature, there are no documented cases of a human fatality from acute styrene vapour inhalation exposure (ATSDR, 2010) (numerous studies cited below). Air, water, and soil exposure standards are developed by regulatory agencies to protect the public from recurring, daily exposures that can occur in occupational settings and during emergency scenarios, in which a one-time exposure could occur. The US National Advisory Council develops Acute Exposure Guideline Levels (AEGs) at three concentration levels (AEG-1, AEG-2, and AEG-3) corresponding to increasing effects for short duration airborne exposures. The US Environmental Protection Agency (EPA) lists AEG-3 values for styrene as high as 1,900 ppm based on a study in rats that developed respiratory lesions

after styrene exposure. However, it is important to note that this value is not based on lethality in humans, as stated by the EPA:

“In humans, the acute effects on the [central nervous system] are well described. However, no reports of lethal intoxications following styrene exposure were identified in the literature; therefore, it is not known if the [lung] lesions observed in rats may also occur in humans exposed to life-threatening or potentially lethal concentrations of styrene” (USEPA, 2008).

Styrene is not a known human carcinogen (IARC, 2019; NTP, 2016) and has been deemed “Not Classifiable as a Human Carcinogen” by the American Conference of Governmental Industrial Hygienists (ACGIH, 2001). According to the International Agency for Research on Cancer (IARC), which has assigned styrene a Group 2A classification, *“In humans, there was inadequate evidence for the carcinogenicity of styrene-7,8-oxide. For styrene, the epidemiological studies provided limited evidence for carcinogenicity, based on positive associations with lymphohaematopoietic malignancies. For solid tumours, including lung cancer, the evidence was sparse or inconsistent. There was an increase in the incidence of sinonasal adenocarcinoma, a rare cancer, in one large cohort of workers in the reinforced plastics industry (Nissen et al., 2018), but cases were few and chance and confounding could not be discounted. In the studies of cancer in humans, inconsistency in the classification by haematopoietic subtypes was noted. Incidence-based studies, and pooling of data from large studies concerning rare cancers, may help to clarify gaps.”* Animal study results were inconsistent, with some strains developing tumors and some not. Mice possess different mechanisms of metabolism compared to humans and, as a result, can develop tumors that are not possible in humans. When this mouse-specific mechanism is blocked in the mouse, they do not develop tumors (Cruzan et al., 2017; IARC, 2019). There is no scientific connection between short-term, acute exposures to styrene and an increased risk of any type of cancer. Thus, cancer is not a likely outcome for short-term, acute exposures to styrene as a result of the LGPI incident.

The principal health and safety concern with a release of styrene vapour is the danger of explosion and fire. Styrene has a lower explosive limit (LEL) of 0.9-1.1% in air, or 9,000-11,000 ppm (CAMEO Chemicals, 2020; NIOSH, 2019; USEPA, 2008). Styrene gas is regularly vented to the atmosphere by pressure relief valves installed on marine, transport, and production storage tanks to prevent uncontrolled releases and explosions. It is reasonably expected that if concentrations of styrene exceeded the LEL, an ignition source would cause the vapours to explode. There have been many styrene gas explosions and fires (as distinct from a vapour release) across the world resulting in injury and deaths, as I describe in Section 5.3 below. There are many international regulatory bodies that have researched styrene exposure and published health guidelines listing possible health effects. None of them identify a risk of death from short-term, acute inhalation exposure.

A review of available documents in English from health and environmental agencies from India, Australia, Japan, South Korea, China, and Singapore also did not contain any findings of acute styrene exposure leading to death in humans. Other international and US agencies state the following:

- **World Health Organization (WHO):** No reports of fatalities that resulted from acute inhalation exposure to high levels of styrene. WHO Air Quality Guidelines - Second Edition-Chapter 5.12- Styrene (2000).
- **International Programme on Chemical Safety (IPCS):** No reports of fatality due to acute styrene inhalation poisoning. Environmental Health Criteria 26 report-Styrene (1983).
- **The International Agency for Research on Cancer (IARC):** No specific reports of death due to acute inhalation exposure to styrene-based products and no reports of fatalities due to acute inhalation exposure to styrene in either IARC monograph. IARC Monograph for Evaluation of Carcinogenic Risks to Humans Vol. 60 (1994) and Vol. 82 (2002).
- **Government of Western Australia:** Does not list death or lethality as potential short-term effects of exposure to styrene. Code of Practice: Styrene (1996).
- **The Agency for Toxic Substances and Disease Registry (ATSDR):** of the US Centers for Disease Control (CDC): *“There have been no reports of deaths in humans directly associated with exposure to styrene in the workplace (EPA 1985a; Gosselin et al. 1984; NIOSH 1983).”* Toxicological Profile: Styrene (2010).
- **The US Environmental Protection Agency (EPA):** *“No reports of lethal intoxication following styrene exposure were located in the literature.”* Technical Support Document: Interim Acute Exposure Guideline Levels- Styrene (2008).
- **The US EPA’s Integrated Risk Information System (IRIS):** report does not list any reports of human fatalities from inhalation exposure to styrene (1992).
- **The National Library of Medicine Hazardous Substances Data Bank (HSDB) Database:** does not list any reports of human fatalities from inhalation exposure to styrene (2020).
- **The National Institute for Occupational Safety and Health (NIOSH):** documentation for the development of 30-minute exposure duration *Immediately Dangerous to Life or Health (IDLH)* value for styrene does not list any studies reporting human fatalities from inhalation of styrene NIOSH (1994).
- **The NIOSH Criteria for a Recommended Standard: Occupational Exposure to Styrene (1983):** *“Few cases of styrene intoxication as such have come to the attention of physicians because of obscure etiologies associated with styrene exposure, and there have been no reports of fatalities.”*
- **The American Conference of Governmental Industrial Hygienists (ACGIH):** does not list any reports of human fatalities from inhalation exposures to styrene. One study is summarized as follows, *“In clinical and workplace evaluations of 900 employees, Kohn and Lorimer et al. found no evidence for hepatic or hematologic abnormalities after chronic exposure at 5 to 200 ppm to as much as “a few thousand” ppm during styrene polymerization...”* Threshold Limit Value (TLV) Documentation for Styrene (2001).
- **United States Occupational Safety and Health Administration (OSHA) Process Safety of Highly Hazardous Chemicals Standard List:** Styrene is not identified by OSHA as a highly hazardous, toxic, or reactive chemical (1994).

- **United States Department of Transportation:** Styrene is not designated as a toxic by inhalation hazard (TIH) by the DOT. United States Department of Transportation (DOT) Emergency Response Guidebook (2016).
- **European Chemicals Agency (ECHA):** does not list styrene on the chemical persistence, bioaccumulation and toxicity (PBT) list ECHA (2020).
- **US EPA Toxics Release Inventory PBL list:** does not list styrene on its persistent bioaccumulative toxic chemical list (2020c).

5.3 Historic Styrene Releases

Styrene is one of the most commonly used monomers in the plastic and polymer production industry. Due to the nature of its chemical properties, styrene must be properly stored and maintained to prevent polymerization reactions. Polymerization is the chemical process of monomer molecules combining to form a long, chain-like polymer molecule. Because styrene is thermally unstable (it can react when exposed to heat), such polymerization reactions can lead to runaway accidents and in some cases, explosions of styrene vessels or containers. Approximately 48% of all runaway incidents in the UK from 1962 to 1987 and 15% of uncontrolled reaction incidents from 1980 to 2001 in the U.S. were due to polymerization reactions (Zhao et al., 2019). Thermal runaway incidents related to the styrene process from 1994-2005 have been summarized by Zhao et al. (2019). It should be noted that there is no documentation that any fatalities in relation to each of the incidences are due to acute inhalation exposure to styrene. Rather, reports available from the above-mentioned incidents indicate that the fatalities were likely due to the physical explosions.

As reported by Barton and Nolan (1989), 189 industrial incidents involving thermal runaway reactions involving styrene were reported from 1962-1987. Incidences that involved fire and/or explosion due to the release of flammable materials resulted in 4 fatalities and 82 injuries. The injuries and fatalities were mostly associated with operators that were splashed with hot liquids or were in proximity to explosions, blasts, or toxic fumes while trying to control the reaction. There were no reported fatalities that were claimed to be caused by acute inhalation of styrene vapours.

A search of the OSHA Accident Investigation Reports was conducted using the keyword “styrene.” A total of 30 reports were reviewed for injuries and/or fatalities related to inhalation styrene exposure. Of these 30 reports, 10 mentioned a total of 12 fatalities, none of which were due to acute inhalation exposure; the majority of fatalities were associated with explosions and chemical burns. Nine investigation reports noted that employee exposures to styrene were associated with various health complaints, including chemical pneumonia, asthma-like symptoms, dizziness, breathing difficulties, loss of consciousness, nausea, eye and nose irritation, and respiratory irritation.

There are no reports of community fatalities as a result of inhalation exposure to styrene. While many fatalities have been reported due to styrene fires and explosions, there have been no deaths of community members associated with acute inhalation of styrene vapours in more than 80 years

of commercial use. This is particularly relevant to the LGPI incident. The LGPI responders were correctly concerned with preventing ignition or explosion of the M6 tank.

Summaries of some other relevant historic styrene releases, causes, resulting effects, and damage/injuries are reported below. These incidents are discussed in detail either because they were well-described in the available reports or because I was personally present at the incident and thus can share a first-hand account of the release.

Cincinnati Railcar Release – 2005

On 28 August 2005, a railcar containing approximately 24,000 gallons of styrene monomer was compromised due to an open safety valve at the top of the tank. This led to the release of a white vapour cloud from the tank, which was near the Lunken Regional Airport and local communities. The population within a 0.5-mile radius from the incident was evacuated (PEAC Aristatek, 2008). I personally responded to this incident while the tank car was leaking and conducted real-time air monitoring in the areas surrounding the release, both evacuated and non-evacuated.

- Suspected cause of venting: increased pressure inside railcar due to heat generated from polymerization reaction;
- Resulting injuries: Two police officers near the rail car were hospitalized after inhaling the styrene vapor; no other injuries reported;
- Explosion/fire: No explosion occurred; cooling of the tank with water prevented catastrophic failure of the tank car until the polymerization ran its course.

In the Cincinnati release, the styrene vapours released from the tank car dispersed quickly into the atmosphere and did not stay close to the ground. As a consequence, there was a community at higher elevation that was occasionally impacted by these vapours, but the residents had been evacuated, and no injuries resulted.

Fishwick – 2008

Two explosions were reported on successive days at an acrylonitrile/styrene (AS) resin production plant as a result of runaway chemical reactions. The first incident occurred due to an uncontrolled polymerization reaction in a faulty AS autoclave (machine that operates under high heat and pressure), which resulted in an increase in temperature and release of steam into the fume duct. The second incident occurred the following day after repair of the AS autoclave and production restarted (Fishwick, 2008).

- Incident 1
 - Suspected cause of autoclave fault: autoclave agitator “slip” (failure to stir properly), followed by disconnection of electric power to agitators and autoclave cooling water pumps
 - Resulting injuries: no fatalities reported
 - Explosion/fire: yes, explosion reported in fume duct, which ruptured in 10 places

- Incident 2
 - Suspected cause of incident: contents (acrylonitrile, styrene, initiator) were left in tank for 40 hours prior to transfer to autoclave; temperature increase caused runaway reaction and emitted combustible (flammable) vapour clouds, which were ignited by electrical installation sparking
 - Resulting injuries: Six people killed and 198 seriously injured
 - 16 people (including the six fatalities) were attempting to man the hydrants when the explosion occurred
 - Injuries included severe scalding and physical injuries due to impact, damage to eardrums, cuts/injuries due to glass/falling objects, acute pharyngitis (styrene inhalation)
 - No reports of acute fatalities directly due to inhalation styrene exposure
- These additive events on successive days were the result of a failure to control a runaway polymerization reaction in an enclosed system producing flammable vapours that were sparked by electrical equipment.

As a result, significant and long-term impacts on the human population were from the explosion and not the result of the short-duration styrene vapour exposure, which might lead to temporary symptoms, such as the acute pharyngitis (sore throat) described by Fishwick et al (2008). A mechanism for vapour release of the reacting chemicals may have prevented a catastrophic result.

Stolt Groenland Tanker Explosion – 2019

On 28 September 2019, during a ship-to-ship cargo transfer with the *Bow Dalian*, a styrene vapour release from the pressure vacuum valve on the *Stolt Groenland* 9S cargo tank occurred in Ulsan, South Korea. Various alarms and monitoring systems indicated that the pressure inside the cargo tank was rapidly rising, which resulted in two successive explosions inside of the tanker cargo manifold (Haywood, 2020; Hazardex, 2020).

- Suspected cause of venting/explosion: rupture of deck above 9S cargo tank (due to pressure increases from polymerization reactions), followed by ignition of styrene monomer vapour that was released
- Resulting injuries: approximately 17 people, including a gangway watchkeeper (blown over guardrails from blast), a deck rating on another nearby ship, and 15 shore workers (emergency response personnel including firefighters and police injured in fire) (MAIB, 2019)
 - No fatalities reported as a result of the incident
- Explosion/fire: fire and two explosions reported

No pressure relief mechanisms were in place to release vapour and to prevent over-pressurization and catastrophic failure of the cargo tank. Multiple injuries near the tank resulted from the explosion.

Hanwha Total Petrochemical Daesan Plant – 2019 (CommoPlast, 2019)

On 17 May 2019, a tank containing styrene monomer ruptured in west central South Korea after the temperature inside the tank exceeded 100 degrees Celsius. A similar incident occurred the following day when workers were trying to stabilize the tank temperature via coolant foam. It was estimated that, between the two events, approximately 97.5 metric tons of styrene monomer were released (Bo-gyung, 2019). This incident is different in that only a portion of the released vapor, or “oil mist” as it has been described, was determined to be styrene. Specifically, the mixed residue within the tank following the incident contained only 33.8% styrene monomer (Ministry of Environment, 2019). People up to 4 km from the plant were initially reportedly affected, although a later investigation by a joint team consisting of civilian experts and officials from the environment and labor ministries, South Chungcheong provincial government, and the Seosan municipality estimated the vapor affected an area up to 2.8 km from the source (hazardex, 2019).

- Suspected cause of venting: increase in tank temperature led to rupture of tank
- Resulting injuries: headaches, nausea, dizziness, vomiting, and eye pain in workers and nearby residents
 - Of ~650 employees and community residents affected, there were no reported fatalities
- Explosion/fire: no explosion or fire reported

As a result of overpressure in the tank, a structural failure allowed styrene monomer vapour to escape the tank, preventing continued pressure build up and a subsequent explosion/fire. Although many individuals (later reports estimate 650 or more) were treated for minor symptoms reportedly associated with the incident, no fatalities were known to have occurred due to inhalation of styrene vapours.

6.0 Factory Background and Incident Description

LGPI is a polymer manufacturing industry located in Visakhapatnam, Andhra Pradesh, India and is a unit of LG Chemicals in South Korea. LGPI was originally established as Hindustan Polymers Limited in 1962 and began manufacturing at the Visakhapatnam Unit in 1967. From 1967 to 1991, Hindustan Polymers was involved in many processes and products, including the manufacture of ethyl alcohol, ethylene/ethylbenzene/styrene sections, and polystyrene and expanded polystyrene production. In 1997, the company was purchased by LG and became LGPI. Since 1997, LGPI has been a manufacturer of polystyrene and expandable polystyrene. In 2018, the EPC plant was commissioned and manufacturing of engineering plastics also began.

Within the facility there are four main process plants:

- General Purpose Polystyrene (GPPS) Plant – bulk polymerization
- High Impact Polystyrene (HIPS) Plant – solution polymerization
- Expandable Polystyrene (EPS) Plant – suspension to polymerization

- Engineering Plastics Compounding (EPC) – granule to granule compounding

The main raw materials used by LGPI include styrene monomer, pentane, liquid paraffin, ethylbenzene, and furnace oil, in addition to other chemicals used in the polymerization process (*i.e.*, hydrochloric acid, peroxides, zinc stearate, polymerization inhibitors, etc.). The company is experienced in the safe use and handling of styrene monomer and related chemicals as evidenced by decades of polystyrene factory operations, in the absence of government-mandated shut downs due to global disease pandemics, without significant incidents.

6.1 LGPI Response to the Incident

Due to the COVID-19 pandemic, process plants were shut down on 24 March 2020. Because of the chemical and physical properties of styrene and the potential for polymerization reactions and explosion, LGPI sought permission to operate the plant during the lockdown. Permission was denied and LGPI was only permitted to allow a small group of employees (45 total) to enter the premises and maintain the plant during the lockdown.

According to LGPI, at approximately 02:58 IST on 07 May 2020 (the time would be 02:54 per the time in the Distribution Control System (DCS) which is 4 minutes behind IST), the M6 tank gas detector alarms A and B were noticed in the DCS control room by the boardman and shift-in-charge. It was suspected that styrene vapours were being released from the top of the Tank M6. At approximately 02:57 IST, vapours were observed on top of the tank, and subsequently, a leak was confirmed. Immediately, the Site Incident Controller/Director was notified, the fire squad was assembled, and the onsite emergency plan was activated. At approximately 03:07 IST, the security in charge began notifying outside agencies to warn the community (fire service, ambulance, etc.). It is not the fault of LGPI that the emergency services (fire and police) did not arrive until after 03:30. While there are alarms that did alert staff to respond to and mitigate the incident, no siren was blown to alert the community as there was no siren on site designed to alert the community. It is understood that no regulatory agency indicated to LGPI that a siren specifically designated for alerting the community was necessary. LGPI employed a robust system of air monitoring instruments to monitor styrene concentrations around the storage tanks and in other areas of the factory. These air monitoring systems were equipped with alarms that operated properly on 07 May 2020 to warn LGPI employees of the styrene release so that the factory emergency response plan could be initiated.

The DCS control room is about 400 meters from the tank farm that includes Tank M6. Several of the LGPI employees on site tried to advance to the area of the tanks. The intensity of the vapour cloud prevented their further advance and they were forced back to the main security gate. Although LGPI responders were affected by eye and skin irritation and respiratory discomfort, they knew styrene gas is highly flammable, and they knew the imminent danger posed by a styrene gas release was the threat of a catastrophic explosion. The LGPI responders donned self-contained breathing apparatuses (SCBAs) as protective gear and advanced toward Tank M6 to try to mitigate the incident as they were trained. The responders reached tank M6 at the height of the styrene vapour release, found the tank's water sprinkling system, and turned on the sprinklers to reduce the temperatures in and around Tank M6 and reduce the amount of vapor at approximately

04:30. They then turned on the refrigeration system controls adjacent to the tank to further reduce the temperatures in and around Tank M6. Subsequently, LGPI personnel added high-temperature inhibitors (*i.e.*, NDM, TDM, Eunox-76, hydroquinone) to the tank to slow the polymerization. Water and inhibitors were added to counter the runaway reaction, in addition to activation of the refrigeration system, transfer of some styrene monomer to a smaller storage tank, and turning on the recirculation system.

6.2 Onsite Air Monitoring Capabilities

LGPI uses a variety of air quality instruments to monitor airborne concentrations of chemicals, which includes ambient air quality monitoring stations (AAQM), LEL gas detectors, and volatile organic compound (VOC) gas detectors. These detector systems are stationed at 30 locations throughout the facility.

The Drager PIR 7000 is an explosion-proof point infrared (PIR) optical transmitter gas detector for continuous monitoring of flammable gases and vapours. It has flexible settings to monitor various measuring ranges, configurable special signals (fault, beam block warning, maintenance), and adjustable LEL values, in addition to a configurable gas library for instrument calibration purposes. These instruments are typically specific for methane, propane, and ethylene, with the option of adding monitoring capability for an additional 10 substances. Response times for these instruments range from ≤ 4 seconds (normal response) to ≤ 1 second (fast response).

The Drager PIR 7000 gas detectors were stationed in multiple locations around the M5 and M6 tanks, as shown in Figure 1 below. Technical information for each of the Drager PIR 7000 gas detectors is provided in Tables 2 and 3 below.

Figure 1. Gas Detector Layout

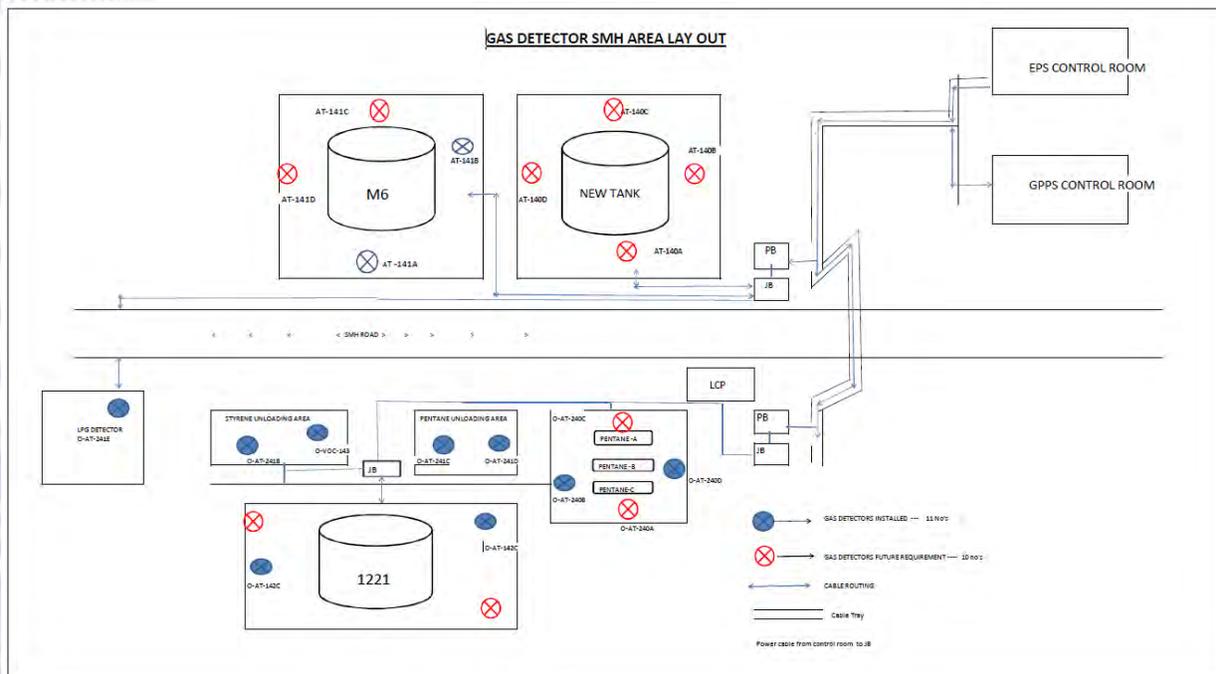


Table 2: Gas Detectors 1-4 (around M6 tank)

Gas Detector	Detector Make	Model	Serial No.	Resolution
O-AT-141A	Drager	PIR 7000type 334	ARKK-0686	0.5% LEL
O-AT-141B	Drager	PIR 7000type 334	ARLH-1362	0.5% LEL
O-AT-141C	Drager	PIR 7000type 334	ARMN-0765	0.5% LEL
O-AT-141D	Drager	PIR 7000type 334	ARMN-0214	0.5% LEL

Table 3: Gas Detectors 5-8 (around M5 tank)

Gas Detector	Detector Make	Model	Serial No.	Resolution
O-AT-140A	Drager	PIR 7000type 334	VRMC-1303	0.5% LEL
O-AT-140B	Drager	PIR 7000type 334	ARMD-0297	0.5% LEL
O-AT-140C	Drager	PIR 7000type 334	ARMN-0753	0.5% LEL
O-AT-140D	Drager	PIR 7000type 334	ARMN-1604	0.5% LEL

The gas detectors were set to alarm when they detected 20% of the LEL. Gas detector logs from the LGPI DCS system indicate that the first alarm was reported at 02:54 (O-AT-141B) (2:58 IST), which was immediately followed by alarms from O-AT-141A, O-AT-141C, and O-AT-141D

indicating the styrene vapour release. It was also indicated that all four gas detectors were in working condition and recorded in DCS. Additionally, it was documented that on 09 February 2020, all emergency sirens located in HIPS, EPS, GPPS, F&A Block and Mechanic Workshop, Electrical SS1, and QI&S passed inspection by the “shift-in-charge” at each location.

The Uniphos 500 (DT) VOC detector is a digital gas transmitter that utilizes a photoionization detector (PID) to measure airborne concentrations of various toxic and flammable gases, including total VOCs and %LEL. This instrument consists of a visual digital transmitter and a smart gas sensor module. The VOC sensors used in the LGPI facility provide continuous real-time air monitoring near the styrene unloading area within the LGPI facility. Technical details for this instrument are provided in Table 4.

Table 4: Gas Detector 9 (Styrene unloading area)

Gas Detector	Detector Make	Model	Serial No.	Measuring Range	Resolution
O-VOC-143	Uniphos	500 (DT)	0619-1080	0 – 1,000 ppm	1 ppm

DCS data-logging was employed to record continuous real-time air monitoring of VOCs near the styrene unloading area. On the day of the incident, VOC detections were consistently logged at 3 ppm from 00:00 to 03:02. However, at 03:03, a VOC detection of 930 ppm was recorded, and detections gradually reduced to below 100 ppm by 03:57 (average: 324 ppm) and below 20 ppm by 04:43. The monitors in the facility confirm that the release was contained to the facility for the most part by 04:43 AM on 07 May but that there were intermittent spikes in readings as Tank M6 was being brought under control. By 01:02 on 08 May, there were no more elevated styrene detections at the styrene unloading area. A map of air monitor locations in the styrene unloading area, around Tank M6, and their proximities to each other and the neighboring villages is provided in Figure 2. Note that the styrene unloading area, where styrene detections were not significantly elevated after 01:02 on 08 May 2020, is directly adjacent to the tank farm and is much closer to Tank M6 than the neighboring villages. A summary of real-time VOC readings through 08 May 2020 23:59 are provided in Table 5.

Figure 2: Map of LGPI Tank M6, Styrene Unloading Area, and Neighboring Villages



Table 5: Real-time Air Monitoring for VOCs via Uniphos 500 (DT)

Time Frame	Count of Readings	Count of Detections	Average Result (ppm)	Range of Detections (ppm)
5/7/2020 00:00 – 03:02	183	183	3 ppm	3 ppm
5/7/2020 03:03 – 04:43	101	101	197 ppm	19 – 930 ppm
5/7/2020 04:44 – 05:39	56	40	6.07 ppm	0 – 19 ppm
5/7/2020 05:40 – 22:39	1,020	0	0 ppm	0 ppm
5/7/2020 22:40 – 5/8/2020 01:01	142	142	300 ppm	4 – 988 ppm
5/8/2020 01:02 – 23:59	1,378	12	0.05 ppm	0 – 9 ppm

In summary, LGPI employed a robust system of air monitoring instruments to monitor styrene concentrations around the storage tanks and in other areas of the factory. The alarms were detected in the DCS control room and LGPI responders initiated the factory emergency response plan as a result. The air monitoring results from these sensors indicate that the majority of the release

occurred between 02:54 and 04:43 on 07 May 2020, and that there were other intermittent releases during the day on 07 May 2020 as the reaction in Tank M6 was being mitigated. Results show that there were no more significant detections of styrene across the facility at the styrene unloading area after 01:02 on 08 May 2020. This suggests that any offsite impacts after 04:43 on 07 May 2020 were minimal and transient. According to the NGT Final Report page 17, APPCB officials also “started the Ambient Air Quality Monitoring with handy samplers from 9:30 AM on 07.05.2020 and Ambient Air Quality Monitoring was taken up on regular basis”. The concentrations measured by APPCB offsite were not as high as LGPI measured onsite. For example, the maximum recorded concentration for 8 May in Table 5 is 988 ppm, whereas the maximum reported by APPCB on 8 May was 374 ppm. Thus, reported concentrations in the community were much lower than those onsite, which is logical since the vapor would have become more dilute as it traveled away from the source.

7.0 Information Gap Assessment

Many details of the 07 May 2020 event at the LGPI factory remain to be determined, yet seemingly premature claims have been made in the press and in the legal proceedings about the impacts of the event to residents in the villages and to the environment and natural resources surrounding the LGPI plant. Proper claims about these subjects cannot be made until all of the necessary information on these subjects is gathered. For example, upon reviewing one person’s medical records made available to LGPI by the individual, it became apparent that this individual’s symptoms may have been caused by a urinary tract infection, rather than styrene exposure (**Appendix C**). Thus, it is important to have access to all available information in order to arrive at accurate conclusions. To arrive at any conclusions regarding the alleged effects of the incident upon individuals and environmental resources, an analysis of the following information was essential.

Information on affected individuals:

- Name
- Location during the incident (residence address or other location)
- Demographic information (age, sex, race)
- Claimed/diagnosed health effect(s) due to styrene exposure
- Medical records prior to and after 07 May 2020 (records of doctor visits, hospital visits and discharges are critical)
- Results of laboratory tests, including testing for styrene metabolites in blood or urine
- Results of respiratory function tests
- Death certificates
- Information on pre-existing and current medical conditions
- Details of the evacuation of villagers conducted by local authorities, including times and locations
- Individual accounts of the incident and resulting actions of each community member

However, references to this information are absent from the NGT Reports thereby indicating that the NGT Committee has arrived at its conclusions without proper analysis of the relevant information.

Information on affected environmental resources:

- Locations and photographs of allegedly impacted animals and fish reported after the styrene release
- Locations and photographs of allegedly affected waterbodies
- Locations and photographs of allegedly affected property
- Maps and photographs of the extent of claimed environmental/vegetative damage due to styrene
- Results of all samples of air, soil, water, vegetation, and any other medium that were analyzed for styrene or other parameters related to the styrene release by local, state, or national authorities or by organizations on their behalf
- Details of sampling equipment (make, model, calibration, measuring ranges) for all air, soil, water, or other media sampling or monitoring done by local, state, or national authorities or by organizations on their behalf
- Data quality assurance/quality control protocols and methods for all air, soil, water, or other media sampling or monitoring done by local, state, or national authorities or by organizations on their behalf
- Qualifications and training records for all personnel engaged in air, soil, water, or other media sampling or monitoring done by local, state, or national authorities or by organizations on their behalf

8.0 Response to Interim and Final Reports of the National Green Tribunal Joint Monitoring Committee

The NGT Committee was appointed to conduct investigations in Visakhapatnam in the days following the LGPI styrene release. The findings of the investigators are captured in the Interim Report of the NGT Committee, Final Report, and the CSIR-NEERI Report (which is annexed to the Final Report and hereinafter referred to as the NEERI Report). Some information from these groups is relevant to my report and findings and warrants the following commentary:

On properties/characteristics of styrene (specifically relating to the carcinogenic nature of styrene and the impact of styrene on the human body)

- In page 5 of their interim report, the NGT Committee stated that, “*Styrene is a hazardous chemical within the provisions of the Environmental Protection Act*”. This is incorrect as styrene is not considered highly toxic and this is evidenced by the fact that it’s ‘Immediately Dangerous to Life or Health’ (IDLH) value has been set at 700 ppm. For comparison, many chemicals have been assigned an IDLH of 10 ppm or lower (e.g. chlorine, acrolein, arsine, methyl isocyanate). Short-term toxicity is dose-dependent, meaning that the level of a chemical’s toxicity is dependent on how high the exposure dose is. Thus, although styrene can be hazardous if not properly stored or maintained, styrene is

not necessarily toxic at every exposure concentration. The principal health and safety concern with a release of styrene vapor is the danger of explosion and fire.

- In page 6, paragraph 12 (a) of their interim report, the NGT Committee indicated that “*delayed or immediate effects can be expected after short or long-term exposure of styrene monomer vapors*”, but this sentence is written in such a way that it cannot be determined which type of effects are supposedly associated with short or long duration exposure. Regardless of what is intended by the NGT Committee, no references are cited, and no examples are given. Long-term risks of styrene exposure are associated with long-term exposure to styrene, not short-term exposures. Chronic exposures to levels of styrene normally encountered in occupational settings are not applicable to the short-term nature of the event on 07 May 2020 at LG Polymers. Styrene is not a known human carcinogen (IARC, 2019; NTP, 2016) and has been deemed “Not Classifiable as a Human Carcinogen” by the American Conference of Governmental Industrial Hygienists (ACGIH, 2001). Therefore, cancer is not a known health effect of long-term styrene exposure in humans, and the same is true for acute, short-term exposures. Because the one-time exposure to styrene would result in metabolism and elimination from the body within a matter of hours, monitoring for long-term effects over years is not necessary. In fact, IARC does not even consider short-term studies for determination of carcinogenicity rating. In the 2019 styrene monograph, they indicated that “Consideration is given to all available long-term studies of cancer in experimental animals with the agent under review” and that “Those studies in experimental animals that are judged to be irrelevant to the evaluation or judged to be inadequate (e.g., too short a duration, too few animals, poor survival; see below) may be omitted.

Even if one were to assume that styrene exposure following the LGPI incident was chronic in nature, (which it was not), an evaluation of cancer epidemiology studies can provide reassurance that risk of developing cancer is not increased as a result of the LGPI incident. IARC, having performed an extensive review of human studies, indicated that there is limited, not sufficient, evidence in humans for the carcinogenicity of styrene. For the metabolite of styrene, styrene-7,8-oxide, IARC found inadequate evidence in humans for carcinogenicity. Of the human studies that have been performed, studies in reinforced plastics workers have been the most informative because these individuals have been exposed to comparatively high levels compared to other industries using styrene, and there were fewer exposures to other chemicals that are known or suspected carcinogens, which prevents confounding in the results (Collins et al., 2013; IARC, 2002; NIOSH, 1982). Studies from this industry include more than 100,000 workers (Banton et al., 2019). Cohen et al. (2002) identified three studies of reinforced plastics industry workers that reported an excess in respiratory cancer (Kogevinas et al., 1994; Okun et al., 1985; Wong et al., 1994), but found that the pattern of results from these studies strongly suggested that those increased reported cases were not attributable to styrene. Specifically, there was no sensible relationship between the worker exposure level and the incidence of reported cases, with

higher exposure levels leading to fewer reported cases. In addition, workers from the Wong et al. study reported a variety of other health conditions, suggesting that this population represented a lower socioeconomic status, which typically coincides with higher rates of smoking, a known cause of respiratory cancers. Factors noted in other studies reporting an excess of lymphatic and hematopoietic (LH) cancers, also include a lack of dose-dependent response, and confounding exposures to other chemicals, in addition to small numbers of observed and expected case numbers (Cohen et al., 2002). Styrene carcinogenesis studies have been performed in rodents, but it was determined that mouse lung tumors were the result of metabolism differences in the mouse compared to humans. Therefore, considering that animal data is non-relevant and epidemiological evidence is inconsistent, it does not appear that styrene credibly causes cancer in humans (Banton et al., 2019).

- In page 11, paragraph 5 of their final report, although the NGT Committee indicates that styrene has a “*sweet smell*”, which is true for pure styrene, commercial grade styrene can have a sharp, penetrating, and unpleasant odor. It is true that styrene is found in foods and beverages. In addition to those listed in the NGT report, styrene is also naturally present in meats, wheat, oats, peaches, and other foods. The US FDA has also approved styrene as a food additive for baked goods, frozen dairy products, candy, gelatins, puddings and other food (chemicalsafetyfacts.org, 2020). This is not characteristic of substances known to cause cancer.

Regarding the NGT Committee’s statement that styrene liquid is soluble in body fat, the ATSDR has indicated that, even though styrene does partition into fat, it does not significantly bioaccumulate, meaning that it does not accumulate in humans or the environment (ATSDR, 2010).

- In page 11, paragraph 5 of their final report, the NGT Committee indicates that styrene is a Group 2A carcinogen as per the IARC. In addition to the comments above, it should be noted that styrene is not a known human carcinogen (IARC, 2019; NTP, 2016) and has been deemed “Not Classifiable as a Human Carcinogen” by the American Conference of Governmental Industrial Hygienists (ACGIH, 2001). According to the International Agency for Research on Cancer (IARC), which has assigned styrene a Group 2A classification, “In humans, there was inadequate evidence for the carcinogenicity of styrene-7,8-oxide. For styrene, the epidemiological studies provided limited evidence for carcinogenicity, based on positive associations with lymphohaematopoietic malignancies. For solid tumours, including lung cancer, the evidence was sparse or inconsistent. There was an increase in the incidence of sinonasal adenocarcinoma, a rare cancer, in one large cohort of workers in the reinforced plastics industry (Nissen et al., 2018), but cases were few and chance and confounding could not be discounted. In the studies of cancer in humans, inconsistency in the classification by haematopoietic subtypes was noted. Incidence-based studies, and pooling of data from large studies concerning rare cancers, may help to clarify gaps.” Animal study results were inconsistent, with some strains

developing tumors and some not. Mice possess different mechanisms of metabolism compared to humans and, as a result, can develop tumors that are not possible in humans. When this mouse-specific mechanism is blocked in the mouse, they do not develop tumors (Cruzan et al. 2017) Overall, the epidemiological studies provide some credible evidence that exposure to styrene causes lymphohaematopoietic malignancies in humans, but confounding, bias, or chance cannot be ruled out” (IARC, 2019). There is no scientific connection between short-term, acute exposures to styrene and an increased risk of any type of cancer. Thus, cancer is not a likely outcome for short-term, acute exposures to styrene as a result of the LGPI incident.

- In page 132, Annexure III of their Final Report, the NGT Committee states that styrene odor can be detected at very low concentrations. This is true for many chemicals and often leads individuals to believe they have been exposed to harmful concentrations of a chemical when, in fact, they have been exposed to concentrations that are below accepted exposure guidelines or perhaps not even detectable via instrumentation in many cases. Thus, many individuals following the LGPI incident were likely exposed concentrations that they could smell but were not harmful. In fact, the odor threshold concentration (~0.015) is several orders of magnitude below levels that may cause minimal health effects in sensitive individuals.

Regarding the physicochemical properties table on page 133 of the Final Report, several points can be made. The vapor density, an important factor in a chemical’s tendency to sink to the ground or float into the atmosphere, is missing from the table and not mentioned in the text. The given odor threshold for air is not accurate. In fact, a range from low to high should be provided since there is considerable difference between individuals and this is partially driven by prior, recent exposure to styrene. The value reported is also not the lowest or highest available in the literature.

- In page 133 of their Final Report, the NGT Committee claims that biotransformation of styrene leads to carcinogenicity, but not one reference is cited within the text to support this claim or its relevance for humans. At the end of page 139 of the NGT Final Report, a blog site website (<https://u.osu.edu/helmig-mason.1/2019/06/30/styrene-toxicity/>) is listed and it is apparent that much of the information in this NGT report section on health effects has been taken directly from this source, which is not peer-reviewed or up to date. The NGT report indicates that styrene is extensively metabolized and a figure showing potential metabolic pathways is provided on page 134, although the point is not discussed that many of these routes are not specific to or common in humans. Thus, some metabolism pathways that are known to occur (e.g. in the lung of mice) are not relevant and do not occur to any great extent in humans. As I have stated earlier, styrene is not a known human carcinogen (e.g. IARC Group 1 Classification), and even if it was a known human carcinogen, cancer is not a disease that can be expected to occur in people experiencing short-term, acute styrene exposures as a result of the LGPI incident. This is the consensus of the scientific

community regarding the potential carcinogenicity of styrene and it is well known that carcinogenic chemical exposures must be of a chronic nature before carcinogenesis (cancer development) can occur page 135 shows a pathway in which styrene is metabolized to styrene oxide, which then is shown in the pathway to lead to carcinogenesis. Because styrene is metabolized to styrene-7,8-oxide in the body following styrene exposure, IARC has studied this metabolite and has found inadequate evidence in humans for carcinogenicity.

- In page 136 of their final report, the NGT Committee states that “*Not much is known about styrene’s mechanism of action or toxicokinetics*”. This is simply not true. Much has been learned about metabolic pathways and species differences and this has been described throughout the literature. For example, the ATSDR indicated in its 2010 Toxicological Profile on Styrene that “increases in lung tumors have been found in mice following inhalation and oral exposure. The increased production of styrene 7,8-oxide in lung Clara cells and the higher ratio of styrene oxide R- to S-enantiomers likely resulted in the increased sensitivity of mice.” (ATSDR, 2010). The NGT report mentions that “[styrene-7.8-oxide] can cause tumor growth in locations other than where it is formed”, but this has not been shown in humans. The report also indicates that “tumorigenic response of styrene is dependent on the balance between the rate of activation and rate of detoxification, though information on these rates is not available”. It is surprising that the NGT Committee places so much emphasis on carcinogenesis without discussion of exposure duration, a critical factor in cancer development, or species differences in metabolism and susceptibility. On page 137, cancer development is not a listed “Sign or Symptom of Styrene Toxicity” for either acute or chronic exposure. This is likely because cancer is not a known effect of styrene exposure in humans, regardless of exposure duration. Therefore, it does not make sense that the available treatments for styrene toxicity listed on page 137 would include “monitoring for styrene-related cancers and tumors”.
- Although it has not been proven that humans develop cancer following styrene exposure, even if it had, chronic overexposure would be necessary, such as that which occurs with decades of cigarette smoking, sun (UV light) exposure, or excessive alcohol consumption in the development of lung, skin, or liver cancer. Page 138 describes in detail that styrene is rapidly degraded in the environment, which further supports the point that exposure duration was not sufficient following the LGPI styrene incident to present a chronic exposure scenario.
- The NGT Committee stated, “*The styrene metabolites are of genotoxic and can cause carcinogenic health impacts to the population exposed based on different factors. It is suggested that the industry shall prepare a comprehensive health monitoring programme along with reputed hospitals for the suspected population at least for five years. Based on the data and health results of the study the monitoring may further continued.*” This statement incorrectly characterizes the potential for future health effects to the community

near the LGPI facility. As I have stated above in Section 5, styrene is not a known human carcinogen (i.e. IARC Group 1 Classification), and even if it was a known human carcinogen, cancer is not a disease that can be expected to occur in people experiencing short-term, acute styrene exposures as a result of the LGPI incident. This is the consensus of the scientific community regarding the potential carcinogenicity of styrene and it is well known that carcinogenic chemical exposures must be of a chronic nature before carcinogenesis (cancer development) can occur. Moreover, because styrene is metabolized to styrene-7,8-oxide in the body following styrene exposure, IARC has studied this metabolite and found inadequate evidence in humans for carcinogenicity.

On the inferences/implications of the data provided in Tables 1-7 of the NEERI Report along with the findings of the NEERI in Annexure IV of page 140-160 of the NGT Final Report.

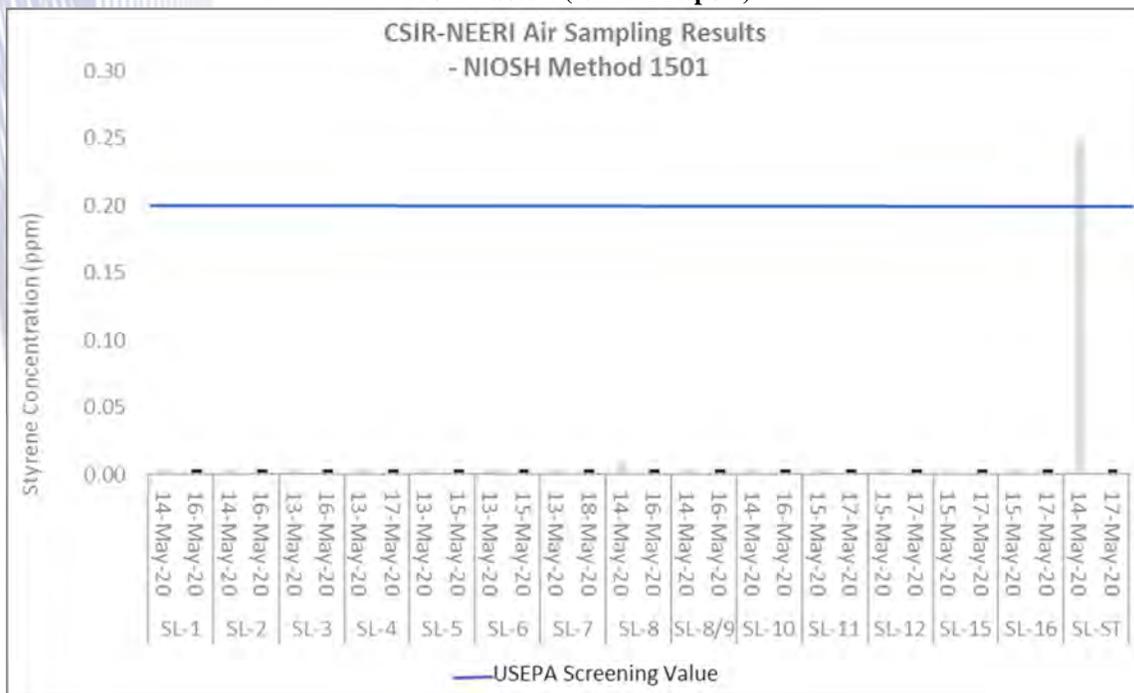
- The NEERI report states on page 143 and 144 that “*the concentrations of styrene were high at the time of the accident in the villages*”, but the next sentence mentions that concentrations could not be measured until 9:30 am, many hours after the incident began.
- The NEERI report states on page 144, “*The low concentrations will cause respiratory and skin sensitivity.*” It is unclear if the statement intends to inform the reader that styrene causes sensitization or if the word “*sensitivity*” is used analogously with the word irritation. I presume the latter, as styrene is not known to cause sensitization reactions but can be irritating to the skin and respiratory tract at certain concentrations. Furthermore, the report authors do not define what level of styrene is meant by “*low concentrations.*” Low concentrations of styrene (e.g., < 0.5 ppm), such as those encountered naturally in the environment that are detectable by smell, do not cause any health effects much less respiratory and/or skin irritation.
- Further, the NEERI report states that, “*Normally the gas will decompose in 12-24 hrs if there is no further addition from the storage tanks.*” This is correct and is in concert with my review of the environmental fate of styrene in air. However, it should also be noted that styrene vapor will continue to disperse with the wind and not necessarily remain in any one area, such as the villages near the LGPI factory, as the natural decomposition takes place.
- The NEERI - CBRN Report discusses that air quality conditions in the villages near the LGPI plant were improved and warranted the safe return of residents as of 10 May 2020. The NEERI Report’s data also indicates that the air quality conditions in the villages were improved as of 10 May 2020. This is consistent with what science and scientists know about the short-lived nature of styrene vapours in the environment.
- A map of NEERI air, water, sampling locations is provided below, with keys to the sampling codes provided in the following tables.

From Table 1 (NEERI Report)

<u>Sample Name</u>	<u>Sample Media</u>	<u>Location Details</u>
SL-1	Air	Nandamuri Nagar Near Community Building
SL-2	Air	Bapuji Nagar Near Bureddy brothers House, Gopalapatnam
SL-3	Air	Venkatapuram Village Near Venugopala swamy Temple
SL-4	Air	Krishnanagar-BRTS Road Near Vedlka Function Hall
SL-5	Air	Naiduthota-Venkata Sai Nagar Near Varasiddi vinayaka Temple
SL-6	Air	Naiduthota-BRTS Road Near Bhashyam School
SL-7	Air	Anjanadri colony, Prahladapuram
SL-8	Air	Venkatapuram, Near Railway Bridge
SL-8/9	Air	Santosh Nagar-Kothapalem
SL-10	Air	Prasanth Nagar Gopalapatnam Near Sai baba Temple Centre
SL-11	Air	Vepagunta- Prasanthi Nagar Near Lakshmi Ganapathi Temple
SL-12	Air	Srinivasanagar Simhachalam Road
SL-15	Air	Appannapalem Near JUNNRAM Colony
SL-16	Air	Krishnarayapuram - NAD Colony Near M.S. Ramayya Company
SL-ST	Air	LG Polymers Near Storage Tank

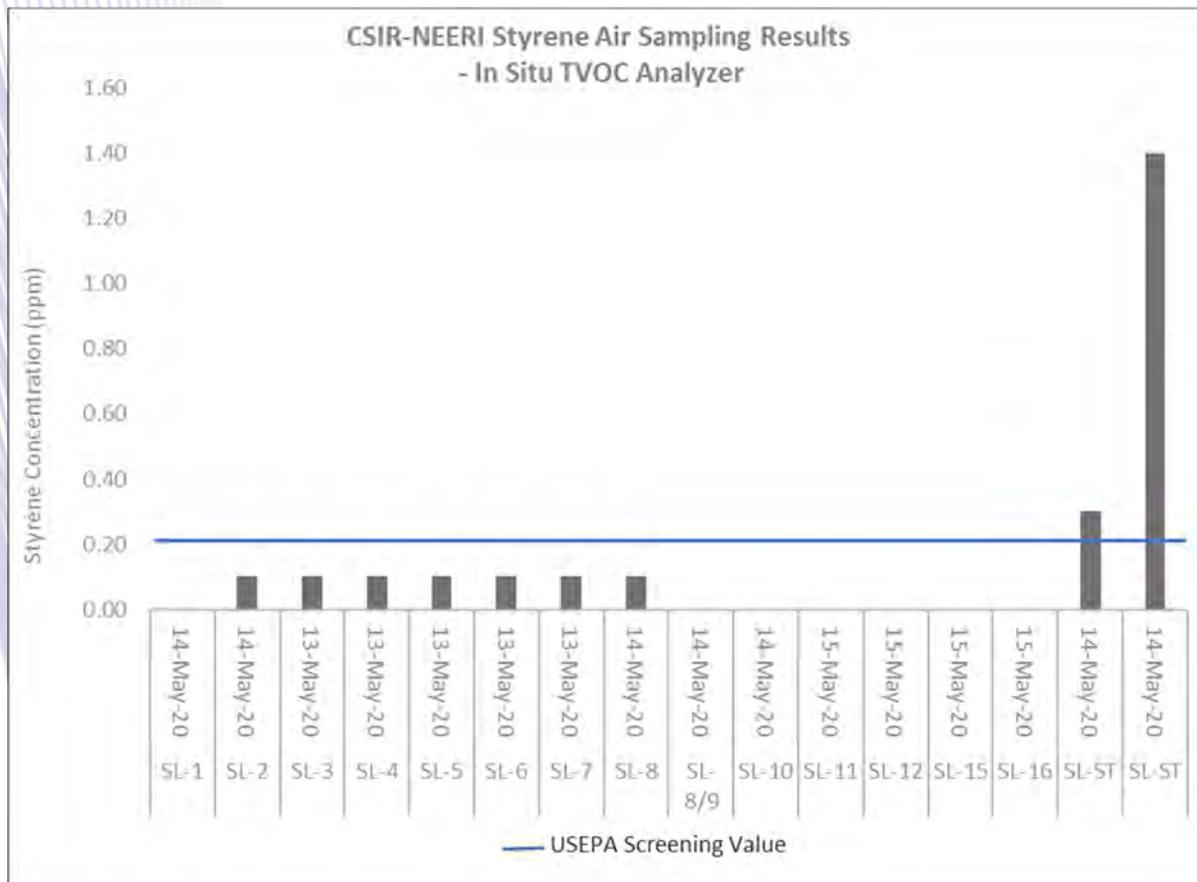
The graph below includes all data reported in Table 2 of the NEERI report.

From Table 2 (NEERI Report)



- CSIR-NEERI also collected spot samples with a VOC analyzer, which yielded styrene concentrations of 0.1 ppm at locations SL-2 through SL-8 on 13 May 2020 and 14 May 2020 (Table 3 in NEERI report). Onsite at the storage tank, the levels detected were 0.3 and 1.4 ppm on 14 May 2020, but levels in the community were either non-detectable or below the styrene screening level. A screening level specifically for TVOCs is not specified.

From Table 3 (NEERI Report)



- Table 4 in the NEERI report provides sampling locations for ground and surface water. The table provided below contains details of those sites.

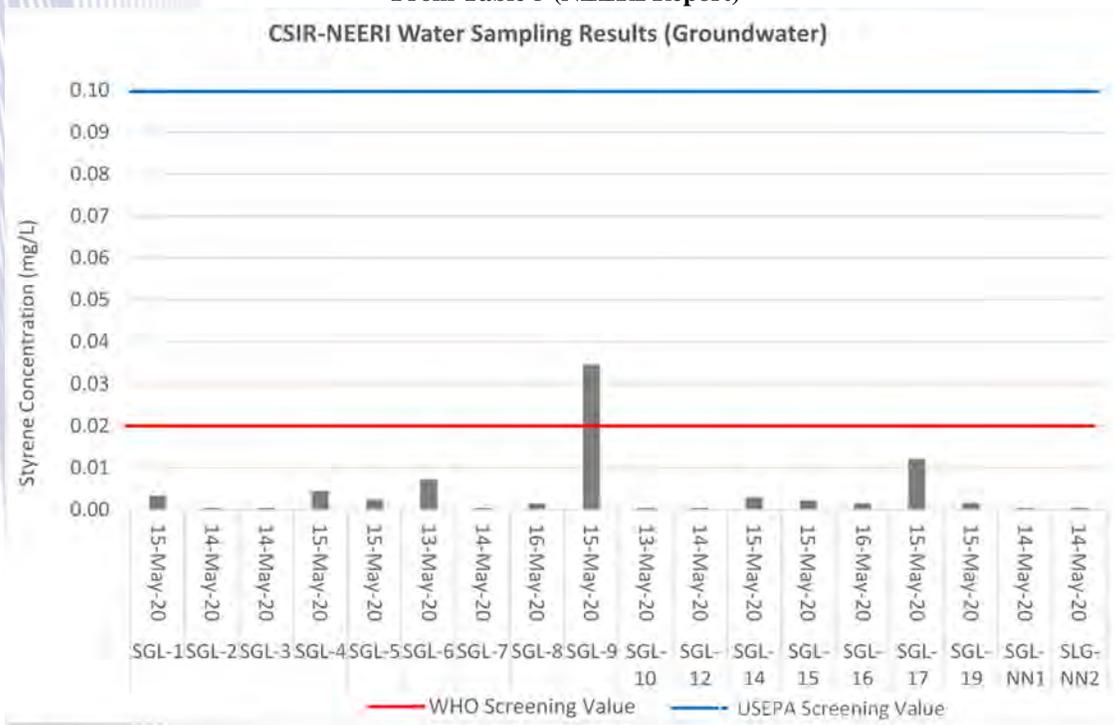
From Table 4 (NEERI Report)

<u>Sample Name</u>	<u>Sample Media</u>	<u>Location Type</u>	<u>Location Details</u>
SGL-1	Groundwater	Dug Well	RR Venkatapuram (Adjacent to right side of LG polymers)
SGL-2	Groundwater	Dug Well	VenkataPuram (In house adjacent to primary school)
SGL-3	Groundwater	Dug Well	Krishnanagar-Vepagunta (Near Durgamalleswaraswamy Temple)
SGL-4	Groundwater	Dug Well	Virat Nagar-Prahaladapuram (H. No 15-141)
SGL-5	Groundwater	Dug Well	Saimadhavanagar-sector II Naiduthota
SGL-6	Groundwater	Dug Well	Padmanabhanagar (Janatanagar Colony 9th LANE)
SGL-7	Groundwater	Dug Well	Venkatapuram (Near House of EApparao)
SGL-8	Groundwater	Dug Well	Agriculture Fields on way to Santosh Nagar - Venkatapuram
SGL-9	Groundwater	Dug Well	Srinivasa Nagar- Simhachalam Road
SGL-10	Groundwater	Dug Well	VenkataPuram (SC-BC Colony)
SGL-12	Groundwater	Dug Well	Kothapalem (Santosh Nagar 3rd Lane)
SGL-13	Surface Water	Reservoir	Meghadri Gedda
SGL-14	Groundwater	Dug Well	Appannapalem- Simhapuri Colony (H.NO-23-167/2 Gayatrinagar)
SGL-15	Groundwater	Dug Well	Krishnarayapuram-NAD Colony (House backside of M.S Ramayya Company)
SGL-16	Groundwater	Dug Well	SC Colony- Old Gopalapatnam (Adjacent to Rly Track of Simhachalam North Station)
SGL-17	Groundwater	Dug Well	Chandrapuri Colony-- Old Adavivram (H. No-11-138) Simhachalam Road
SGL-18	Surface Water	Lake	Kota-Narva
SGL-19	Groundwater	Dug Well	Chintala Agraham (Near Trimatha Temple Agriculture Fields)
SGL-D	Surface Water	Drain	Venkatapuram (Near Railway Bridge)
SGL-ID	Surface Water	Collection Tank	LG Polymers-Oil Skimmer Tank
SGL-NN1	Groundwater	Dug Well	Venkatapuram (Near the House of L Apparao)
SGL-NN2	Groundwater	Dug Well	Inside LG Polymers

SGL-FP	Surface Water	Fish Pond	Venkatapuram (Bapanna Cheruvu)
SGL-MGA	Surface Water	Reservoir	Meghadri Gedda
SGL-MGB	Surface Water	Reservoir	Meghadri Gedda
SGL-MGD	Surface Water	Reservoir	Meghadri Gedda Near Juthada Village Road

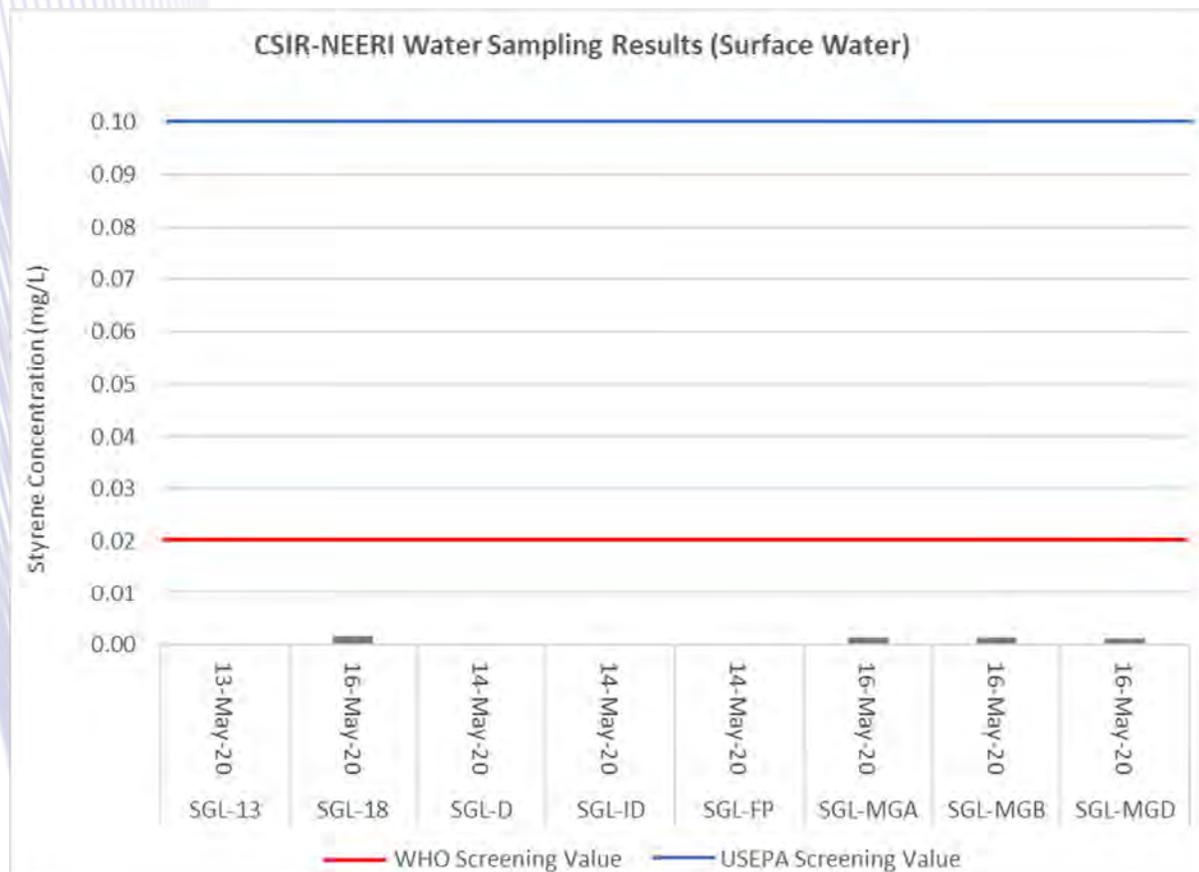
- CSIR-NEERI groundwater results presented in Table 5 of the NEERI report are included in the graph below. Analysis of a sample from dug well onsite (SGL-NN2) on 14 May 2020 indicated that the styrene concentration was below the detection limit, indicating that any styrene that had entered the groundwater had already evaporated, which is consistent with knowledge pertaining to the environmental fate of styrene in water.
- Other sampling in areas that experienced lower vapor concentrations (or perhaps no vapor at all) indicated detectable levels in some cases. For example, one ground water sample (2 kilometers from the site) contained 0.035 mg/L styrene and another (3 km from the site) contained 0.012 mg/L on 15 May 2020. Both of these sites were dug wells to the northeast of LGPI, suggesting the potential for unrelated styrene sources. The WHO and USEPA screening values for water are 0.02 and 0.1 mg/L, respectively.

From Table 5 (NEERI Report)



- Surface water results presented (also presented in Table 5 in the NEERI report) show either non-detectable or extremely low levels of styrene (below 0.0015 ppm).
- Some water samples did not contain detectable levels (SGL-7, SGL-D, and SGL-FP), despite being relatively close to the release on the south and southwest sides

From Table 6 (NEERI Report)



- Table 6 of the NEERI report contains results for water samples collected from the Meghadri Gedda Reservoir (assumedly on 16 May 2020 when other MGR samples were collected). These samples were tested for physico-chemical characteristics and metals. However, no control sample was collected from a location far from the release for comparison. Similarly, no sample results for reservoir water were made available for a “before and after” comparison. It is not expected that released styrene would cause any of the tested physico-chemical properties or metals to change significantly. Styrene consists of carbon and hydrogen atoms only. Therefore, it cannot increase or decrease concentrations of metals. Water may be contaminated or otherwise cause an imbalance as a result of many factors, resulting in elevated carbon (all life forms consist of carbon), nitrogen, or oxygen demand. For example, the Central Pollution Control Board (CPCB), Delhi has identified five river stretches in Andhra Pradesh as polluted, exceeding the

prescribed standard limit of Bio-chemical Oxygen Demand (BOD, 3.0 mg/L) during 2016 and 2017. Considering these factors, it is not possible to determine from the results provided in the NEERI report whether any of the non-styrene water quality parameters were affected by the potential presence of styrene.

- Per the NEERI - CBRN Report early soil sampling on 8 May 2020 indicated a range of surface soil styrene concentrations from 109 mg/kg at the Narava Kota Reservoir to 5950 mg/kg on onsite at the LG Polymers facility near the M6 tank. Later soil sampling from 17 May-14 July 2020 among the surrounding villages indicated that only Venkatapuram Village and Prahaladapuram Village samples contained detectable levels, but far below the Canadian Council of Ministers of Environment (CCME) 5 mg/kg residential screening levels. Sample concentrations of styrene were measured and compared to the CCME guideline values, which are recommended, but not enforceable exposure guidelines for long-term exposure, which makes them less applicable in this case. The US EPA has developed screening levels (EPA regional screening values) that are used at contaminated sites when they are under investigation to determine if potentially significant levels of contamination are present to warrant further investigation. The EPA screening level for styrene is 6000 mg/kg soil, whereas the CCME values range based on location/usage. As with the air and water sample results, adequate details of the analytical methodology are missing from the NGT report. The LOQ for this method is the same concentration as the agricultural soil CCME (0.1 mg/kg), which means that a decrease below the agricultural guideline (and LOQ) cannot be observed.

Additionally, it is apparent from reading the method by which the soil analysis method was performed that it was not adequate to detect this concentration accurately. Specifically, the standard concentrations chosen should have included higher concentrations. Standards in the context of analytical chemistry are purchased samples containing known concentrations of the chemical(s) being measured. When these standards are analyzed together with the samples containing unknown concentrations (all samples collected in the field), it is then possible to determine the concentration in the unknown sample. A proper analytical method uses a range of standards, which span from lowest to highest concentration. These are then plotted in a graph and samples containing the unknown concentrations are then plotted together with the standards so that their concentrations can be accurately determined. However, it is important that the concentrations of the standards chosen cover the full range of the concentrations contained in the samples with the unknown concentrations. If, after sample analysis, the sample with the unknown concentration is determined to contain a much higher concentration than the highest standard concentration, the analysis should be performed again using standards that span a more appropriate concentration range. The highest standard concentration used for the analysis of soil samples was 1 mg/kg, which is several orders of magnitude below some of the early concentrations reported. Thus, any results containing concentrations higher than 1 mg/kg should be questioned, with those much higher than 1 mg/kg being considered more questionable than those closer to 1 mg/kg, the top end of the standard dilution range chosen. But even the lowest concentration

reported in this case was over two orders of magnitude higher (109 mg/kg) than the highest standard concentration, which means that all of these initial soil results are questionable.

Regarding Table 7 in the NEERI report (bioassay test results), it is impossible to determine what the cause of fish mortality was at 100% reservoir concentration. The zebra fishes tested were aquarium fish and not necessarily compatible with the reservoir water tested, regardless of any styrene content. A bioassay with pre-incident vs. post-incident water samples would need to have been performed to determine whether mortality observed was associated with styrene presence. Styrene concentrations should have been measured in the water samples before, during, and after testing, but this was not reported. It would not be surprising if there was no styrene present since it evaporates quickly from water. Additionally, although the report mentions organic content being moderate to high, no details are provided as to how and when this was measured or what the organic content was prior to the incident. For these reasons, the results of the bioassay are not useful and do not indicate that styrene overexposure was the cause of the 4/10 total fish deaths reported at 72 and 96 hours in the 100% concentration category.

In relation to sampling and monitoring conducted by various agencies, and the inferences/implications of the data provided in table on page 17 of the NGT Final Report.

- The NGT Final Report indicates that Venkatapuram Village is “100 m downwind of industry”; however, the nearest home is actually 220 m (0.22 km) from the M6 tank, the source of the styrene vapor (see image below).
- The information about wind speed and direction in the NGT Committee’s Final Report (pg. 16) seems incorrect and incomplete. Both wind speed and direction changed over the course of the release. It is not clear what time frame the average windspeed reported (1.1 m/s) was recorded over or where the wind speed and direction data were collected. The NGT Committee indicates that the predominant wind direction was “from South West to North East”. Having inspected the available meteorological data, CCTV surveillance video, and vegetation damage surrounding the site, the predominant wind direction was clearly not from southwest to northeast.
- With regard to the styrene levels in the community, the NGT Committee stated on pg. 16-17 that “The concentrations of styrene were high at the time of accident in the villages. The concentrations could not be measured at the time as there were lethal and villages were inaccessible.” This exact statement is found in the introduction of the NEERI report attached as Annexure III to the NGT Interim Report. It is unclear what the committee’s definition of a lethal concentration is as there is no known lethal concentration of styrene in humans. It is also not possible for the styrene concentrations to have been lethal in all of the villages as the NGT Report suggests, as the winds only blow in one direction at a time and the styrene could only affect one downwind area at a time. We still do not know the

location of the fatalities that have been reported nor does the NGT Committee refer to the location of the fatalities.

- On pg. 16, it is stated that TVOC concentrations were recorded, but no results were provided. In the table on pg. 17 of air quality results measured by APPCB, the time of sample collection was not stated. However, the NEERI- CBRN Report indicates that air quality conditions in the villages near the LGPI plant were improved and warranted the safe return of residents on 10 May 2020. According to the table provided in the NGT Committee's Final Report, average levels on 10 May were approximately the same as on 9 May. In fact, real-time air monitoring for VOCs onsite at LGPI for the majority of 8 May (01:02 – 23:59) resulted in fairly low readings ranging from 0-9 ppm.

Emergency Preparedness of LGPI

- The NGT Report stated that, *“No alarm generated when vapour leakage occurred and auto sensor of styrene is failed to detect the conc. in ppm.”* This appears to be incorrect as there was an alarm detected in the DCS control room indicating detection of styrene vapour outside of the tank. Further, the LEL sensors around Tank M6 detect styrene as a percentage of the LEL of styrene and alarm at 20% of the LEL, or 2,200 ppm.
- The NGT Committee stated that, *“It is reported that unit's inability to access personnel protective equipment in a timely manner, safety response preparedness of the site had impact in the early stages of safety operations.”* The meaning of this statement is unclear. The styrene release impacted a large portion of the LGPI facility and made it difficult to access certain types of equipment no matter where that equipment was stored.

On inferences/implications pertaining to the Incident

- The NGT Committee also stated that, *“The incident is tragic but it could have been far worse had the affected tank, Tank M6, ruptured and the temperature of the tank contents had shot up far beyond the 154 ° C, well over the boiling point of styrene.”* This is correct in that the impacts to the plant and the surrounding community could have been much greater as a result of a fire / explosion which the LGPI responders did their best to successfully prevent.
- The NGT Committee stated that, *“An estimated 800 tons (8 lakh kg) of styrene escaped into the surroundings in the incident.”* The NGT Committee has failed to provide any justifications for this estimate.

- With regard to the styrene levels in the community, the NGT Committee stated, “*The concentrations of styrene were high at the time of accident in the villages. The concentrations could not be measured at the time as there were lethal and villages were inaccessible.*” This exact statement is found in the introduction of the NEERI report attached as Annexure IV to the NGT Interim Report. It is unclear what the NGT Committee’s definition of a lethal concentration is as there is no known lethal concentration of styrene in humans as demonstrated in great detail in Section 5 of this report. It is also not possible for the styrene concentrations to have been lethal in all of the villages as the NGT Final Report suggests, as the winds only blow in one direction at a time and the styrene could only affect one downwind area at a time. We still do not know the location of the fatalities that have been reported nor does the NGT Committee refer to the location of the fatalities.
- In page 12 of their final report, the NGT Committee states that “*it appears from an examination of nearby damaged trees that the gas plume moved at a height of about 0-20 feet from the ground towards the nearby settlements*”. It is not stated what source this range is derived from or how it was measured. It is clear from photos of the area near LGPI (**Appendix D**) that effects to vegetation immediately following the incident were confined to the area near the facility and before the boundary of the residential area. Thus, it cannot be assumed from viewing vegetation damage that the vapor plume traveled any certain distance into the villages at any certain height. Vegetation in other directions was either completely unaffected or affected to a lesser degree than vegetation southwest of LGPI.
- Images of the LGPI site and surrounding area are provided on pages 8 and 9 of the NGT Final Report. It is apparent from the image on page 8 that the residences are densely arranged in the area directly to the northwest, west, and southwest of LGPI. This is of importance since the majority of the styrene vapors moved in the west and southwest directions. In the figure on page 9, the development of the area immediately to the west (Venkatadri Gardens) occurred over time, with little to no development shown in 2004, but increasingly more housing apparent from 2009 to 2019. It is surprising that local land zoning regulations were not in place or enforced to prevent such close proximity to a chemical plant.

On the direction on monitoring to be undertaken by NEERI in paragraph 6(i), page 22 -23 of the NGT Final Report

Comments to specific suggested studies on pg. 22-23 of the Final Report are as follows:

1. Monitoring for styrene in air, water, and soil for 10-12 months following the incident is not necessary if concentrations are consistently below acceptable screening values, which they have been for months.

2. “Assessment of the environmental components for styrene concentration” has been and is still being performed. It is not exactly clear what is meant by this statement.
3. Remedial measures for soil and water are completely unnecessary since no styrene is detected in these media. It can be argued that remedial measures at this point would be a waste of resources and potentially cause unnecessary harm to the environment.
4. Risk assessment and modeling studies may be performed, but the effects resulting from short-term exposure to styrene vapor are short-term. Thus, no lingering or delayed effects are expected.
5. It would not make sense to perform bioassays for toxicity in the water since no styrene should be present in the water at this time.

9.0 Ongoing Environmental Testing in the Areas Surrounding the LGPI Plant

Air, soil, and water studies conducted by CSIR-NEERI in the early days following the 07 May 2020 incident at LGPI, including soil, water, and air analyses for styrene and other parameters, indicated a very limited to non-existent ongoing impact of styrene to the environment. This is consistent with what is known about styrene and its fate in the environment. Furthermore, air soil and water studies have been conducted by VIMTA, on behalf of LGPI, for the past six months and counting since the 07 May 2020 styrene release. VIMTA results for air, water, and soil are provided in the following graphs (Mid-May to 21 September 2020) and tables (showing results for additional sample locations from 19 September 2020 through 21 October 2020). These data provide conclusive evidence that there is no persistent styrene contamination or ongoing effects to the environment in the areas surrounding the LGPI plant. Thus, no ongoing environmental damage has occurred or will occur, and ongoing studies beyond the scheduled November and December bi-monthly sampling events by VIMTA will not be necessary.

VIMTA Monitoring Locations

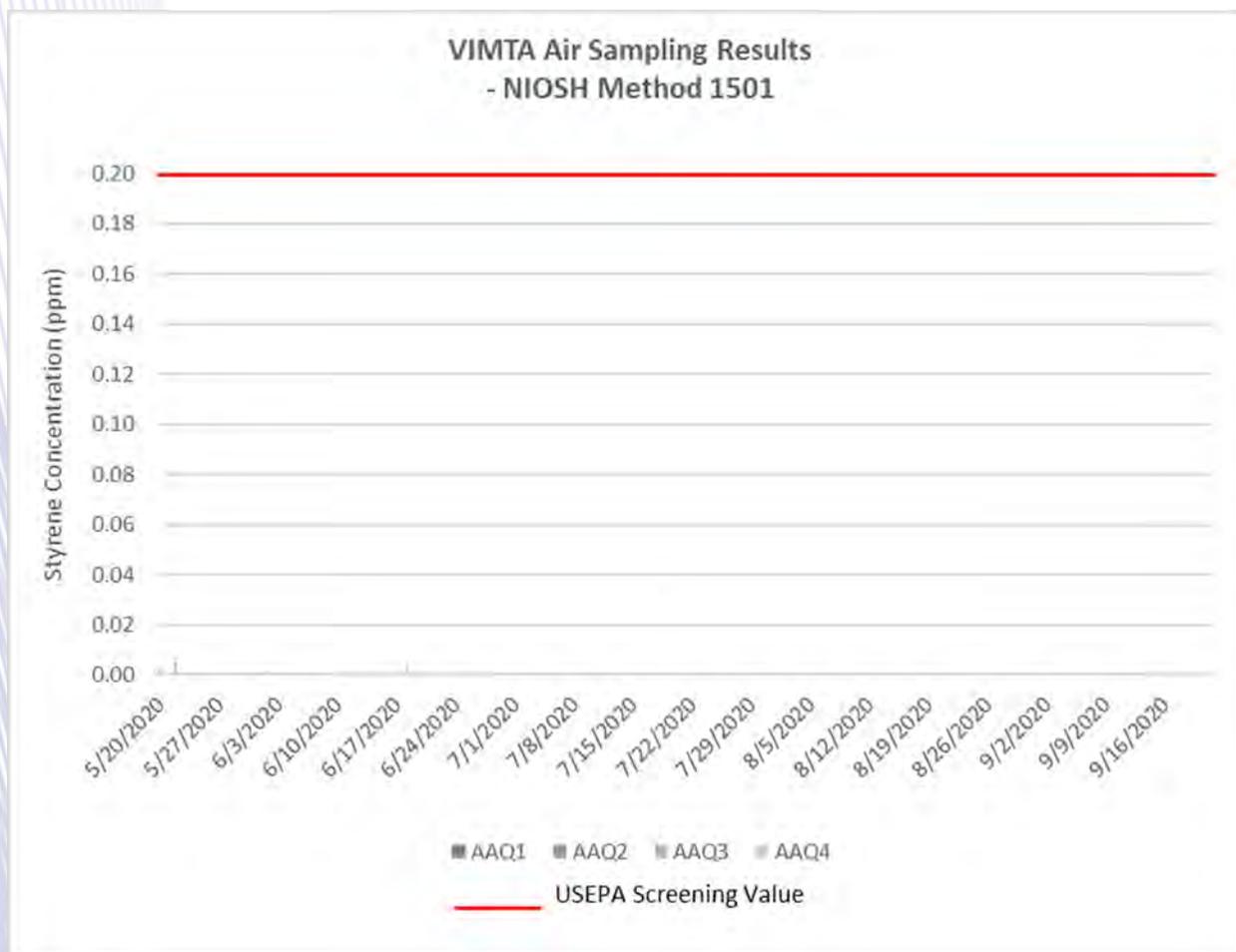
<u>Sample Name</u>	<u>Sample Media</u>	<u>Location Type</u>	<u>Location Details</u>
AAQ1	Air	-	Venkatapuram Village
AAQ2	Air	-	Prahaladapuram Village
AAQ3	Air	-	Gopalapatnam Village
AAQ4	Air	-	Santosh Nagar Village
GW1	Groundwater	Not stated	Venkatapuram Village
GW2	Groundwater	Not stated	Padmanabhapuram Village*
GW3	Groundwater	Not stated	Kamrapalem Village*
GW4	Groundwater	Not stated	Pydimamba Colony Village
GW5	Groundwater	Not stated	Naiduthota Village
GW6	Groundwater	Not stated	Prahaladapuram Village
GW7	Groundwater	Not stated	Gopalapatnam Village
GW8	Groundwater	Not stated	Santosh Nagar Village

GW9 [@]	Groundwater	Not stated	Ajantha Park Colony
SW1	Surface Water	Not stated	Meghadri Gedda Reservoir
SW2 [#]	Surface Water	Not stated	Surface Water Plant Site
SW3 [#]	Surface Water	Not stated	Surface Water Sample West Side Plant Boundary
S1	Soil	Not stated	Venkatapuram Village
S2	Soil	Not stated	Padmanabhapuram Village
S3	Soil	Not stated	Kamparapalem Village
S4	Soil	Not stated	Pydimamba Colony Village
S5	Soil	Not stated	Naiduthota Village
S6	Soil	Not stated	Prahaladapuram Village
S7	Soil	Not stated	Gopalapatnam Village
S8	Soil	Not stated	Santosh Nagar Village
S9	Soil	Not stated	Adavivaram Village
S10 [@]	Soil	Not stated	Simhachalam
S11 [@]	Soil	Not stated	Gollanarayanapuram Village
S12 [@]	Soil	Not stated	Prahaladhapuram Village
S13 [@]	Soil	Not stated	Gopalapatnam Plant Site
S14 [@]	Soil	Not stated	Plant Site

LGPI Area Map



VIMTA Air Monitoring Results (20 May 2020 – 21 September 2020)



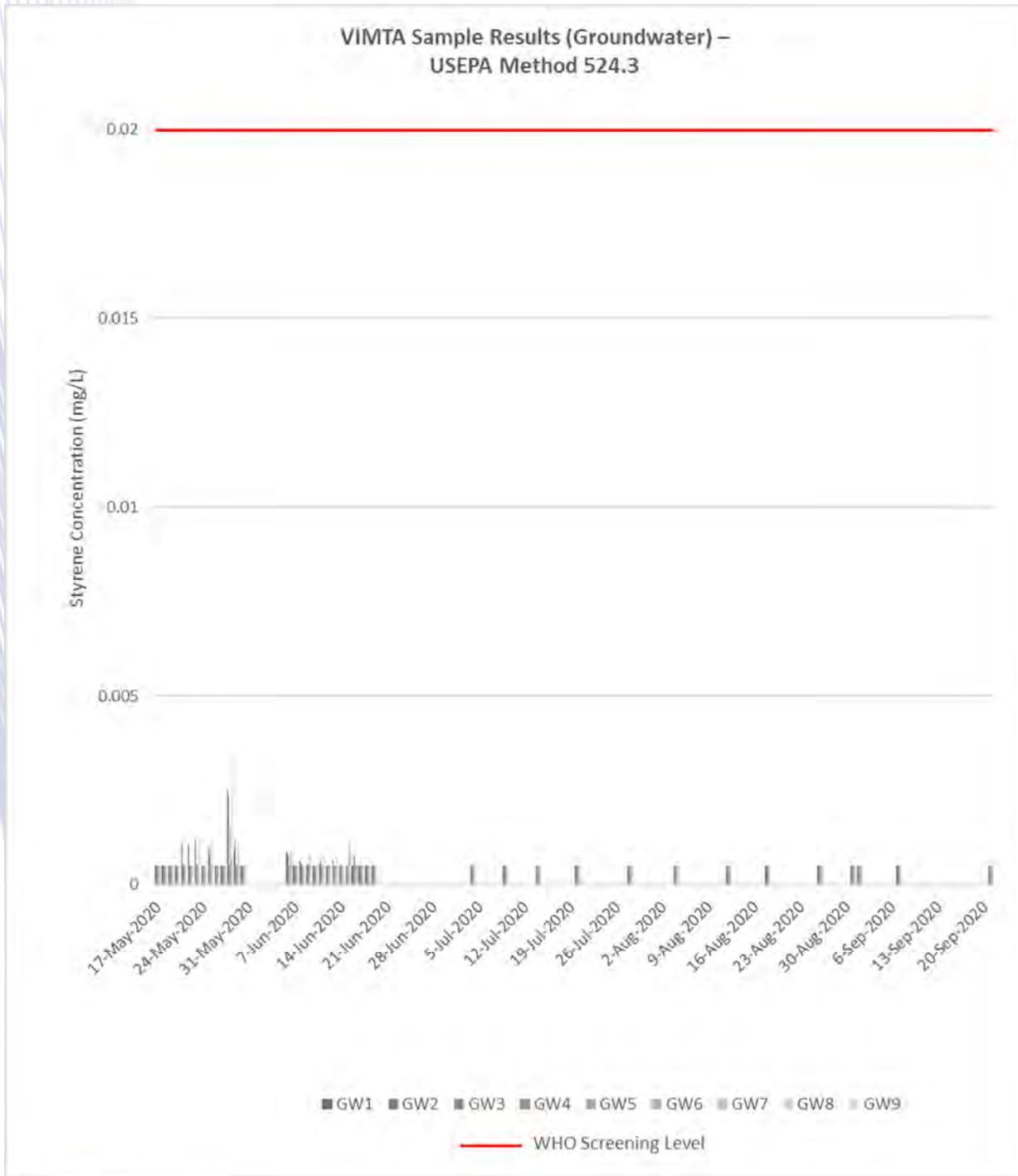
VIMTA Air Monitoring Results (19 September 2020 – 16 October 2020)

Air Sample ID	Location Identification	GPS Locations		Sampling Date	Styrene Monomer		Sampling Date	Styrene Monomer	
		latitude	longitude		AM	PM		AM	PM
AAQ1	Kothamamba Temple Kamrapalem	17°45'29.8"N	83°11'39.1"E	19.09.2020	ND*	ND	05.10.2020	ND	ND
AAQ2	Patha Kamrapalem	17°45'31.6"N	83°11'49.3"E	19.09.2020	ND	ND	05.10.2020	ND	ND
AAQ3	Venkatapuram beside railway track	17°45'28.5"N	83°11'55.6"E	20.09.2020	ND	ND	08.10.2020	ND	ND
AAQ4	BC Colony Back side	17°45'25.6"N	83°12'8.2"E	20.09.2020	ND	ND	08.10.2020	ND	ND
AAQ5	Venkatapuram fields	17°45'20.7"N	83°12'5.7"E	22.09.2020	ND	ND	08.10.2020	ND	ND
AAQ6	Burial ground	17°45'08.8"N	83°12'7.1"E	22.09.2020	ND	ND	08.10.2020	ND	ND
AAQ7	Vepadamma Temple Venkatapuram	17°45'13.6"N	83°12'18.9"E	23.09.2020	ND	ND	09.10.2020	ND	ND
AAQ8	Near STP Pump house	17°45'10.4"N	83°12'21.8"E	23.09.2020	ND	ND	09.10.2020	ND	ND
AAQ9	Venkatapuram school back side	17°45'29.9"N	83°12'31.8"E	24.09.2020	ND	ND	09.10.2020	ND	ND
AAQ10	Venkatapuram	17°45'21.2"N	83°12'23.5"E	24.09.2020	ND	ND	09.10.2020	ND	ND

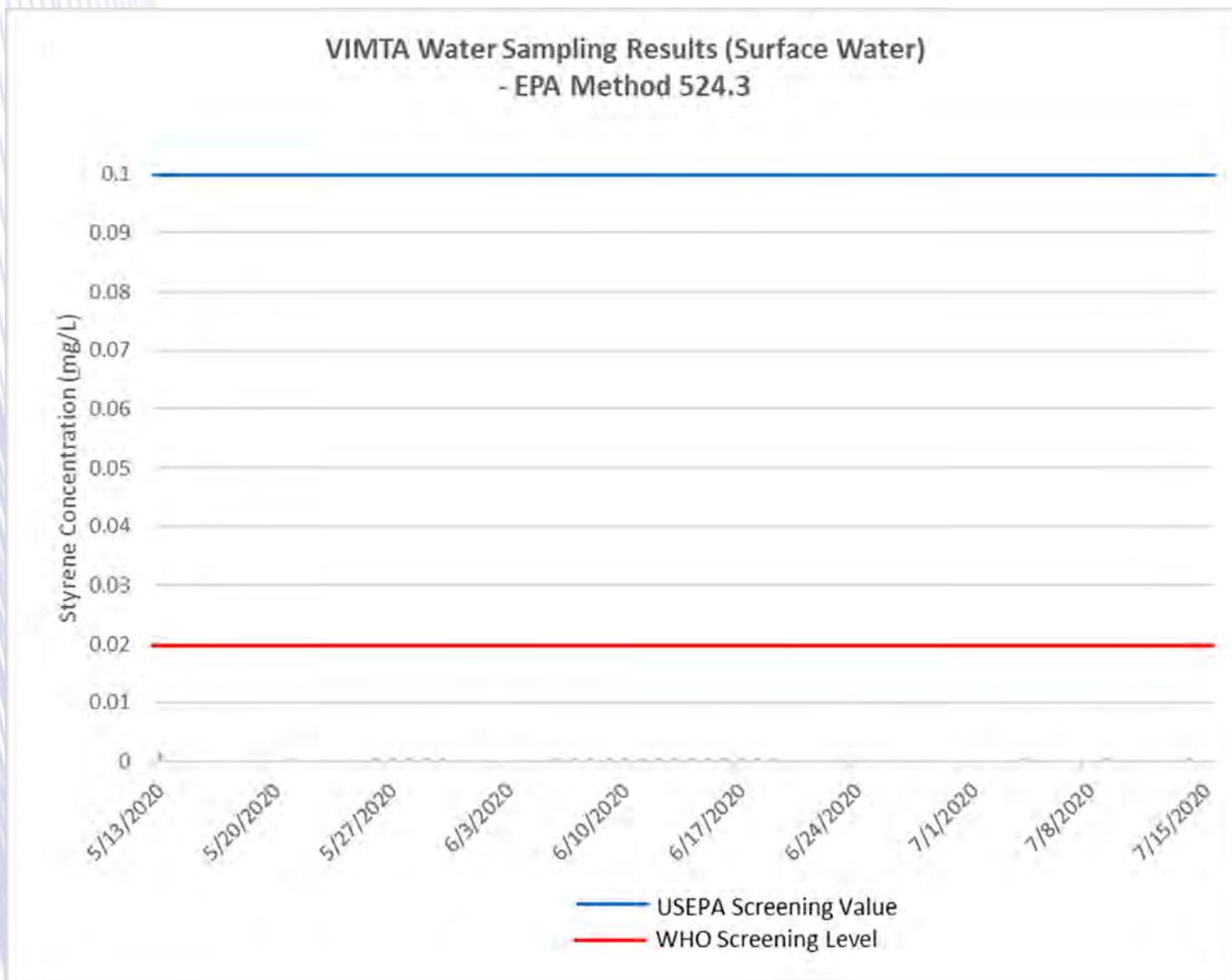
AAQ11	Santosh nagar/Kottapalem Hanuman Temple	17°45'50.8"N	83°12'54.4"E	24.09.2020	ND	ND	10.10.2020	ND	ND
AAQ12	Railway Quarters	17°45'4.4"N	83°12'47.4"E	24.09.2020	ND	ND	10.10.2020	ND	ND
AAQ13	Near Gopalapatnam ground (Stadium)	17°45'0.8"N	83°13'2.1"E	25.09.2020	ND	ND	10.10.2020	ND	ND
AAQ14	Near Lakshmi Ganapathi Temple	17°45'33.3"N	83°12'3.2"E	25.09.2020	ND	ND	10.10.2020	ND	ND
AAQ15	Meghadrigadda Colony (Near APSWR)	17°45'37.6"N	83°11'58.4"E	25.09.2020	ND	ND	11.10.2020	ND	ND
AAQ16	Andhra cements	17°45'40.9"N	83°11'47.8"E	25.09.2020	ND	ND	11.10.2020	ND	ND
AAQ17	Near ZPH high School BC colony	17°45'39.3"N	83°12'6.4"E	26.09.2020	ND	ND	11.10.2020	ND	ND
AAQ18	Padmanaba nagar	17°45'45.4"N	83°12'15.5"E	26.09.2020	ND	ND	11.10.2020	ND	ND
AAQ19	Near Jesus Belivers church(Banta Colony)	17°45'54.4"N	83°12'23.3"E	26.09.2020	ND	ND	12.10.2020	ND	ND
AAQ20	Ravi Nagar	17°45'55.6"N	83°12'35.6"E	26.09.2020	ND	ND	12.10.2020	ND	ND
AAQ21	Near Naidu Thota	17°45'59.0"N	83°12'29.6"E	27.09.2020	ND	ND	12.10.2020	ND	ND
AAQ22	Near Panchamukha Temple(padmanabha nagar)	17°45'44.3"N	83°12'26.7"E	27.09.2020	ND	ND	12.10.2020	ND	ND
AAQ23	Krishna Naga (Near Ayyappa Temple)	17°45'40.3"N	83°12'54.9"E	27.09.2020	ND	ND	14.10.2020	ND	ND
AAQ24	Ravi nagar (Near Krishna Temple)	17°45'59.7"N	83°12'59.4"E	27.09.2020	ND	ND	14.10.2020	ND	ND
AAQ25	Appala Narasayya colony	17°45'59.0"N	83°12'29.7"E	28.09.2020	ND	ND	14.10.2020	ND	ND
AAQ26	Vepagunta (BC Colony)	17°46'25.3"N	83°12'59.6"E	28.09.2020	ND	ND	14.10.2020	ND	ND
AAQ27	Near Krishna Devaraya Sangam Vepagunta	17°46'41.8"N	83°12'44.9"E	28.09.2020	ND	ND	15.10.2020	ND	ND
AAQ28	Near Sail Ware house Vepagunta,	17°46'45.3"N	83°12'36.5"E	28.09.2020	ND	ND	15.10.2020	ND	ND
AAQ29	Chevalapalli	17°46'52.5"N	83°12'56.7"E	29.09.2020	ND	ND	15.10.2020	ND	ND
AAQ30	Porlupalem	17°46'33.1"N	83°12'44.1"E	29.09.2020	ND	ND	15.10.2020	ND	ND
AAQ31	Gautam Nagar	17°46'13.1"N	83°13'04.8"E	29.09.2020	ND	ND	16.10.2020	ND	ND
AAQ32	Durganagar	17°46'52.7"N	83°13'12.5"E	29.09.2020	ND	ND	16.10.2020	ND	ND
AAQ33	Near APEPDCL Ganapathi Temple	17°45'39.0"N	83°13'2.5"E	29.09.2020	ND	ND	16.10.2020	ND	ND
AAQ34	Srinivasanagar	17°46'6.4"N	83°13'38.5"E	29.09.2020	ND	ND	16.10.2020	ND	ND

* Not Detected

VIMTA Groundwater Monitoring Results (17 May 2020 – 21 September 2020)



VIMTA Surface Water Monitoring Results (17 May 2020 – 21 September 2020)



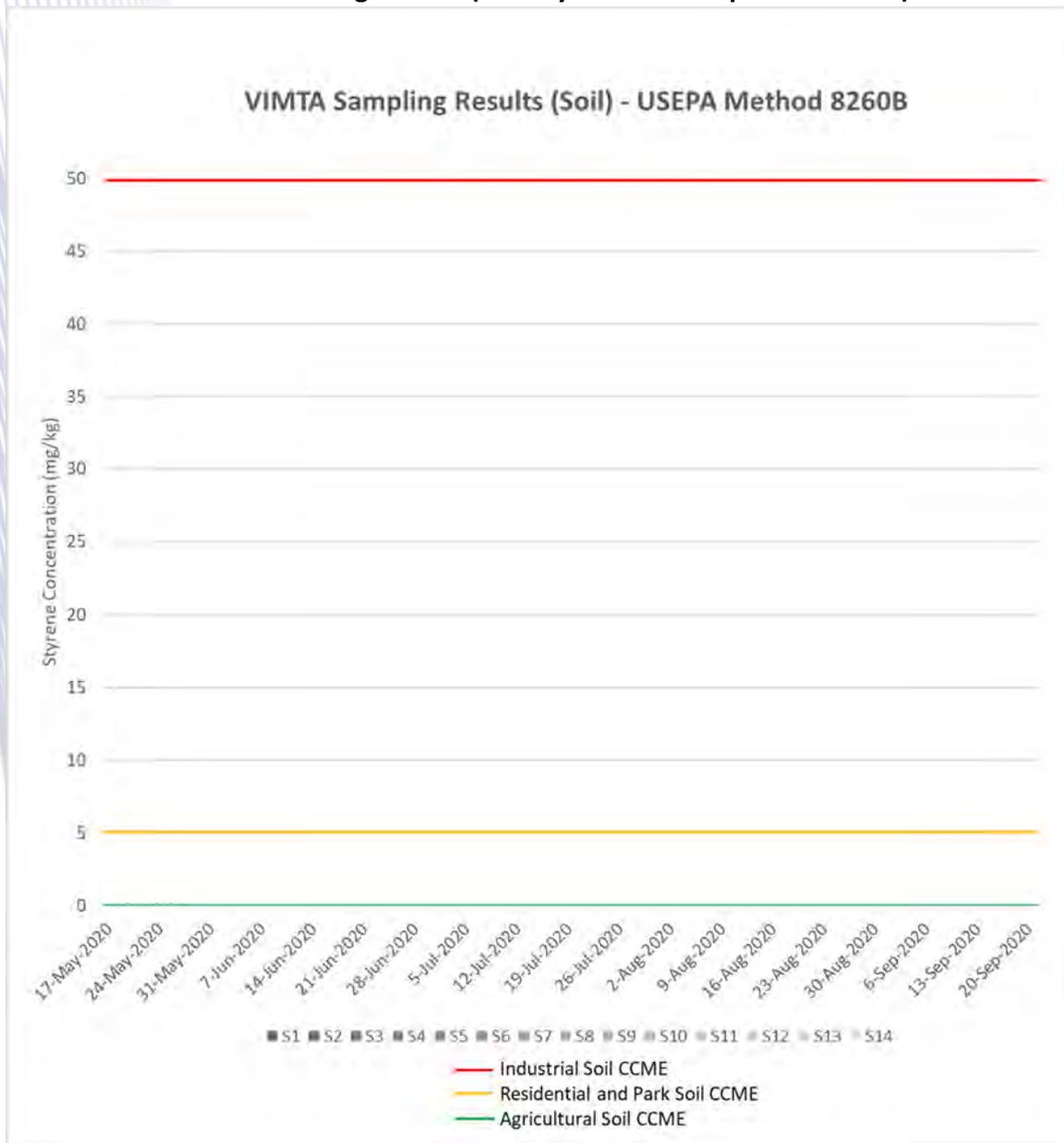
VIMTA Water Monitoring Results (19 September 2020 – 23 October 2020)

Water Sample ID	Location Identification	GPS Locations		Sampling Date	Styrene Monomer	Sampling Date	Styrene Monomer	Sampling Date	Styrene Monomer
		Lat	Long						
GW1	Kothamamba Temple Kamparapalem	17°45'30.3"N	83°11'39.1"E	19.09.2020	BLO*	08.10.2020	BLO	19.10.2020	BLO
GW2	Patha Kamparapalem	17°45'32.4"N	83°11'49.6"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW3	Venkatapuram beside railway track	17°45'28.6"N	83°11'55.6"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW4	BC Colony Back side	17°45'25.8"N	83°12'8.0"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW5	Venkatapuram fields	17°45'20.2"N	83°12'5.6"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW6	Burial ground	17°45'8.5"N	83°12'5.9"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW7	Vepadamma Temple Venkatapuram/Venkatapuram Railway Bridge	17°45'13.7"N	83°12'18.8"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW8	Near STP Pump house	17°45'10.4"N	83°12'22.0"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW9	Venkatapuram school back side	17°45'30.2"N	83°12'32.2"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW10	Venkatapuram	17°45'22.1"N	83°12'23.7"E	19.09.2020	BLO	08.10.2020	BLO	19.10.2020	BLO
GW11	Santosh nagar Hanuman Temple	17°45'50.5"N	83°12'54.5"E	20.09.2020	BLO	09.10.2020	BLO	21.10.2020	BLO
GW12	Railway Quarters	17°45'4.7"N	83°12'47.3"E	20.09.2020	BLO	09.10.2020	BLO	21.10.2020	BLO
GW13	Near Gopalapatnam ground (Stadium)	17°45'3.8"N	83°13'3.5"E	20.09.2020	BLO	09.10.2020	BLO	21.10.2020	BLO
GW14	Near Lakshmi Ganapathi Temple	17°45'33.4"N	83°12'3.2"E	20.09.2020	BLO	09.10.2020	BLO	21.10.2020	BLO
GW15	Meghadrigadda Colony (Near APSWR)	17°45'37.3"N	83°12'00.3"E	20.09.2020	BLO	09.10.2020	BLO	21.10.2020	BLO
GW16	Andhra cements	17°45'42.5"N	83°11'47.0"E	20.09.2020	BLO	09.10.2020	BLO	21.10.2020	BLO
GW17	Near ZPH high School BC colony	17°45'38.6"N	83°12'6.8"E	20.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW18	Padmanaba nagar	17°45'44.8"N	83°12'15.8"E	20.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW19	Near Jesus Belivers church(Banta Colony)	17°45'54.4"N	83°12'23.3"E	20.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW20	Ravi Nagar	17°45'55.7"N	83°12'35.8"E	20.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW21	Near Naidu Thota	17°45'59.3"N	83°12'29.2"E	20.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW22	Near Panchamukha Temple(padmanabha nagar)	17°45'44.4"N	83°12'26.7"E	20.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW23	Krishna Naga (Near Ayyappa Temple)/Near DurgaMalleswara Temple	17°45'40.0"N	83°12'55.1"E	22.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW24	Ravi nagar (Near Krishna Temple)/Swami Vivekananda Marg	17°45'59.7"N	83°12'59.3"E	22.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW25	Appala Narasayya colony/Near YRGC Office NaiduThota	17°46'08.9"N	83°12'46.4"E	22.09.2020	BLO	10.10.2020	BLO	22.10.2020	BLO
GW26	Vepagunta (BC Colony)/Near Bhulokamatha Temple	17°46'05.1"N	83°12'59.6"E	22.09.2020	BLO	11.10.2020	BLO	22.10.2020	BLO
GW27	Near Krishna Devaraya Sangam Vepagunta/ZPH School Vepagunta	17°46'41.3"N	83°12'44.4"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO
GW28	Near Sail Ware house Vepagunta,	17°46'45.3"N	83°12'36.5"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO

GW29	Chevalapalli/suryapatnas colony	17°46'52.4"N	83°11'56.5"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO
GW30	Porlupalem	17°46'32.4"N	83°11'44.4"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO
GW31	Gautam Nagar	17°46'13.6"N	83°11'4.7"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO
GW32	Durganagar/Near DurgaDevi Temple	17°45'52.7"N	83°13'12.5"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO
GW33	Near APEPDCL Ganapathi Temple	17°45'38.7"N	83°13'2.7"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO
GW34	Srinivasanagar	17°46'07.0"N	83°13'35.5"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO
GW35	Narava Pond	17°44'28.2"N	83°11'29.3"E	22.09.2020	BLO	11.10.2020	BLO	23.10.2020	BLO

* Below Level of Quantitation

VIMTA Surface Soil Monitoring Results (17 May 2020 – 21 September 2020)



VIMTA Soil Monitoring Results (19 September 2020 – 21 October 2020)

Soil Sample ID	Location Identification	GPS Locations		Sampling Date	Styrene Monomer	Sampling Date	Styrene Monomer	Sampling Date	Styrene Monomer
		Lat	Long						
S1	Kothamamba Temple Kamparapalem	17°45' 29.4"N	83°11' 38.9"E	19.09.2020	BLO*	08.10.2020	BLQ	19.10.2020	BLQ
S2	Patha Kamparapalem	17°45' 32.1"N	83°11' 49.6"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S3	Venkatapuram beside railway track	17°45' 26.8"N	83°11' 56.0"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S4	BC Colony Back side	17°45' 27.1"N	83°12' 07.5"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S5	Venkatapuram fields	17°45' 20.3"N	83°12' 05.6"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S6	Burial ground	17°45' 8.4"N	83°12' 06.0"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S7	Vepadamma Temple Venkatapuram	17°45' 13.6"N	83°12' 18.7"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S8	Near STP Pump house	17°45' 10.4"N	83°12' 22.0"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S9	Venkatapuram school back side	17°45' 28.7"N	83°12' 31.4"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S10	Venkatapuram	17°45' 21.2"N	83°12' 24.6"E	19.09.2020	BLQ	08.10.2020	BLQ	19.10.2020	BLQ
S11	Santosh nagar Hanuman Temple	17°45' 50.4"N	83°12' 54.0"E	20.09.2020	BLQ	09.10.2020	BLQ	21.10.2020	BLQ
S12	Railway Quarters	17°45' 4.6"N	83°12' 47.4"E	20.09.2020	BLQ	09.10.2020	BLQ	21.10.2020	BLQ
S13	Near Gopalapatnam ground (Stadium)	17°45' 1.1"N	83°13' 2.1"E	20.09.2020	BLQ	09.10.2020	BLQ	21.10.2020	BLQ
S14	Near Lakshmi Ganapathi Temple	17°45' 30.8"N	83°12' 2.4"E	20.09.2020	BLQ	09.10.2020	BLQ	21.10.2020	BLQ
S15	Meghadrigadda Coloney (Near APSWR)	17°45' 37.4"N	83°11' 58.2"E	20.09.2020	BLQ	09.10.2020	BLQ	21.10.2020	BLQ
S16	Andhra cements	17°45' 42.3"N	83°11' 46.9"E	20.09.2020	BLQ	09.10.2020	BLQ	21.10.2020	BLQ
S17	Near ZPH high School BC colony	17°45' 39.1"N	83°12' 07.4"E	20.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S18	Padmanaba nagar	17°45' 44.4"N	83°12' 14.7"E	20.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S19	Near Jesus Belivers church (Banta Colony)	17°45' 53.5"N	83°12' 22.1"E	20.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S20	Ravi Nagar	17°45' 55.5"N	83°12' 37.4"E	20.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S21	Near Naidu Thota	17°45' 58.9"N	83°12' 29.8"E	20.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S22	Near Panchamukha Temple	17°45' 43.2"N	83°12' 26.7"E	20.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ

	(padmanabha nagar)								
S23	Krishna Naga (Near Ayyappa Temple)/Durga Malleswara Temple	17°45' 39.8"N	83°12' 55.3"E	22.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S24	Ravi nagar (Near Krishna Temple)/Swamy Vivekanada Marg	17°45' 58.2"N	83°12' 59.8"E	22.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S25	Appala Narasayya colony/Near YRGC Office Naiduthota	17°46' 7.0"N	83°12' 46.8"E	22.09.2020	BLQ	10.10.2020	BLQ	22.10.2020	BLQ
S26	Vepagunta (BC Colony)/Near Bhulokamata Temple	17°46' 24.3"N	83°13' 3.4"E	22.09.2020	BLQ	11.10.2020	BLQ	22.10.2020	BLQ
S27	Near Krishna Devaraya Sangam Vepagunta/ZPH School Vepagunta	17°46' 42.5"N	83°12' 53.3"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S28	Near Sail Warehouse Vepagunta,	17°46' 45.2"N	83°12' 36.4"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S29	Chevalapalli/SuryaPatnas Colony	17°46' 49.4"N	83°11' 53.6"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S30	Porlupalem	17°46' 33.6"N	83°11' 43.7"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S31	Gautam Nagar	17°46' 13.4"N	83°11' 4.7"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S32	Durganagar/Near Durga Devi Temple	17°45' 52.5"N	83°13' 12.6"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S33	Near APEPDCL Ganapathi Temple/APEPDCL district Store	17°45' 39.8"N	83°13' 6.5"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S34	Srinivasanagar	17°46' 6.4"N	83°13' 38.2"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S35	Meghadrgadda Dam	17°45' 35.3"N	83°11' 43.2"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
S36	Narava Pond	17°44' 28.1"N	83°11' 29.3"E	22.09.2020	BLQ	11.10.2020	BLQ	23.10.2020	BLQ
SE 1	Meghadrigadda Dam	17°45' 26.8"N	83°11' 5.8"E	29.09.2020	BLQ			21.10.2020	BLQ
SE 2	Narava Pond	17°44' 28.2"N	83°11' 29.3"E	29.09.2020	BLQ			21.10.2020	BLQ

* Below Level of Quantitation

10.0 Conclusions

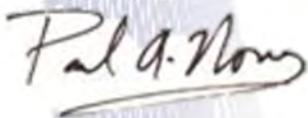
LGPI workers, faced with an unprecedented situation involving government-mandated manpower reductions as part of the COVID-19 pandemic lockdown, managed to prevent the catastrophic failure of tank M6 due to runaway styrene monomer polymerization that would not have occurred without lockdown conditions. The release of styrene monomer vapours was part

of the function of the M6 tank to prevent pressure buildup and a catastrophic tank failure from occurring. The action of the LGPI responders to further reduce the polymerization reaction prevented a catastrophic tank failure, fire and explosion from occurring. A true determination of the full impact of this event to the health of impacted residents living near the LGPI factory cannot be known until gaps in information are filled, allowing proper assessment of the extent of environmental impact and the cause of claimed health effects. It is clear, however, that LGPI could not have anticipated fatalities from a vapour release at its plant as this situation is unprecedented in over 80 years of industrial use of styrene around the world.

I found much of the information presented in the NGT Committee reports of this incident to be inaccurate which, in turn, led to incorrect or incomplete conclusions about LGPI and the impacts of the styrene release to people and the environment. My general conclusions regarding the NGT Committee reports are provided below:

- The NGT Committee mischaracterizes the physical/chemical properties, toxicological properties, and potential health effects of styrene.
- The NGT Committee incorrectly suggests that brief exposures to styrene could cause cancer in people exposed to styrene from LGPI.
- Air testing conducted by CSIR-NEERI, referred to by the NGT Committee in their reports, showed very low or non-detectable levels of styrene in areas outside of the LGPI plant.
- Soil and water samples collected by CSIR-NEERI were analyzed using flawed analytical methods, indicating that the higher results may not be accurate.
- The environmental impact resulting from the LGPI incident was brief, and environmental testing and observations of affected vegetation in the areas in and around the LGPI plant support this.
- Due to the fact that the duration of exposures was brief, long term effects are not expected. Thus, long-term environmental and health testing is not deemed necessary.
- The bases for the NGT Committee's estimates of the amount of styrene released, the levels of styrene vapour in the air in the hours following the release, and the directions in which the styrene vapour dispersed cannot be verified, or were determined based on incorrect underlying information, and are unreliable.

Respectfully submitted,



Paul A. Nony, PhD, CIH, CSP
Principal Toxicologist
Director, Toxicology and Occupational Health
CTEH®, LLC

Appendix A

Curriculum vitae of Dr. Paul Nony (CTEH)



THE SCIENCE OF READYSM

PAUL NONY, PhD, CIH, CSP

Principal Toxicologist
Director, Toxicology and Occupational Health
pnony@cteh.com

INTRODUCTION

Dr. Paul Nony is the Director of Toxicology and Occupational Health and has over twenty years training and professional experience in the fields of chemical emergency response, human and environmental toxicology and risk assessment, cell biology, physiology, and cancer research. He received his Ph.D. in Interdisciplinary Toxicology from the University of Arkansas for Medical Sciences (UAMS) and spent two years in a postdoctoral fellowship at the National Institute of Environmental Health Sciences (NIEHS) in Research Triangle Park, NC. Upon completion of his fellowship in 2003, Dr. Nony accepted a position as a Toxicologist at CTEH® in Little Rock, AR. Dr. Nony is a board Certified Industrial Hygienist (CIH) through the American Board of Industrial Hygiene, a board Certified Safety Professional (CSP) through the Board of Certified Safety Professionals, and a member of the American Industrial Hygiene Association, the American Conference of Governmental Industrial Hygienists, and the Society of Toxicology.

Dr. Nony participates in a variety of projects with scopes ranging from chemical product evaluation to emergency response to environmental contamination to evaluating the chemical causes of human disease. He is consulted by clients for his expertise in worker chemical exposure incidents and is asked to convey toxicological information to workers, supervisors, and health care providers alike to improve the communication of health risks to workers and employers and the quality of toxicological information used by treating physicians. He also is called by government agencies as well as hazardous materials shipping, handling, and manufacturing and petroleum industry clients to provide expert toxicological and human health risk support in emergency situations where releases of hazardous materials pose a threat to workers, residents, and the environment. Dr. Nony possesses experience and expertise in industrial hygiene, risk assessment, and the human toxicology of many classes of chemicals that may pose a risk to human health through the contamination of air, water, and/or soil. He also has expertise in emergency preparedness and planning and is a trusted partner of industry and governments alike in emergency response management and safety.

Dr. Nony is also a Guest Lecturer in the Department of Environmental and Occupational Health, College of Public Health, at UAMS where he lectures on the subjects of toxicology and environmental health. He has written numerous peer-reviewed journal articles and reviews, serves as a reviewer for book chapters and peer-reviewed journals, and is a US patent holder.

EDUCATION

Ph.D., Interdisciplinary Toxicology, 2001
University of Arkansas for Medical Sciences
Little Rock, AR

B.A., Biology, 1996
Hendrix College
Conway, AR

PROFESSIONAL AFFILIATIONS

- Certified Industrial Hygienist #11135CP
- Certified Safety Professional #33934
- Society of Toxicology, Full Member
- American Industrial Hygiene Association
- South Central Chapter Society of Toxicology
- American Conference of Governmental Industrial Hygienists

PRIOR EXPERIENCE

Postdoctoral fellow at the National Institute for Environmental Health Sciences, Metastasis Division, Laboratory of Molecular Carcinogenesis, Research Triangle Park, NC

Investigated effects of environmental chemicals on the adhesive properties of human breast cancer cells.

Performed immunochemical analyses and polymerase chain reactions to identify proteins and signaling pathway activation in tumor cells.

PAUL NONY, PhD, CIH, CSP

Principal Toxicologist
 Director, Toxicology and Occupational Health
 pnony@cteh.com

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Relevant Experience (continued):

Predoctoral Researcher, Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences, Little Rock, AR

Isolated primary kidney cell cultures from rabbits and examined repair and regeneration responses following toxic chemical exposures.

Performed cell cycle analyses using flow cytometry and confocal microscopy.

Mentored graduate and undergraduate students.

Predoctoral Researcher, Division of Neurotoxicology, USFDA, National Center for Toxicological Research, Jefferson, AR

Studied the effects of neurotoxicants on metabolic enzymes in rodent brain tissue.

Mastered immunohistochemical and cytological methods.

SAFETY/EMERGENCY MANAGEMENT AND CRISIS PREPAREDNESS EXPERIENCE

Over 30 tabletop and functional drills and exercises

9 States including: California, Washington, Texas, Oregon, Florida, Louisiana, South Dakota, New Jersey and Arkansas

5 Canadian Provinces and the United Kingdom

Type I Incident Safety Officer Experience, 2016

Facilitator, ICS 320 Training and Tabletop Exercise, Fort Worth, TX

Trained in ICS 100, 200, 300, 320, 700, 800, 2017

PUBLICATIONS

Refereed Publications:

1. Scribner, K., Nony, P. A., Kind, J., Still, K. R. and Hesterberg, T. (2019) 'Chapter 27 – Toxicology of Asbestos', in Luttrell, W.E., Still, K.R., Church, J.A. & Beyer, L.A. (eds.) *Toxicology Principles for the Industrial Hygienist*. Falls Church, VA: AIHA, pp. 398-411.

2. Wnek, S. M., Kuhlman, C. L., Harrill, J. A., Nony, P. A., Millner, G. C. and Kind, J. A. (2018) 'Chapter 5 - Forensic Aspects of Airborne Constituents Following Releases of Crude Oil Into the Environment A2 - Stout, Scott A', in Wang, Z. (ed.) *Oil Spill Environmental Forensics Case Studies*: Butterworth-Heinemann, pp. 87-115.

3. Harrill J.A., Wnek, S.W., Pandey R.B., Cawthon, D., Nony, P.A., Goad, P.T. (2014) Strategies for Assessing Human Health Impacts of Crude Oil Releases. *International Oil Spill Conference Proceedings*.

4. Nony, P., Scribner, K., Hesterberg, T., (2014) Synthetic Vitreous Fibers. In: Wexler, P. (Ed.), *Encyclopedia of Toxicology*, 3rd edition vol 4. Elsevier Inc., Academic Press, pp. 448–453.

5. G.C. Millner and P.A. Nony (2010) No Time to Lose: Preparation, Quick Thinking are Essential for Emergency Response and Analysis. *The Synergist*. June/July 0607/10.

6. Nony, P. A. (2008) Clearing the Air. *Risk Management*. Aug; 55(8):59.

7. Nony PA, Nye, AC, Sandau, CD. (2006). PCB data validation and interpretation for establishing fish consumption guidelines in the USA – A Texas case study. *Organohalogen Compounds*. 68; 2214-2217.

8. Laura L. Ferriby, Jeffrey S. Knutsen, Mark Harris, Paul Nony, Kenneth M. Unice, Dennis Paustenbach and Paul Scott (2006). Evaluation of PCDD/F and Dioxin-like PCB Serum Concentration Data from the 2001-2002 National Health and Nutrition Examination Survey of the United States Population. *J Exp Sci Environ Epidemiol*. 1-14.

9. P.A. Nony, S.B. Kennett, W.C. Glasgow, K. Olden, and J.D. Roberts (2005). 15(S)-Lipoxygenase-2 Mediates Arachidonic Acid-stimulated Adhesion of Human Breast Carcinoma Cells through the Activation of TAK1, MKK6, and p38 MAPK. *J Biol Chem*. 280 (36), 31413-31419, 2005.

10. P.A. Nony and R.G. Schnellmann (2003). Mechanisms of renal cell repair and regeneration after acute renal failure. *J. Pharmacol. Exp. Ther*. 304: 1-8.

11. P.A. Nony and R.G. Schnellmann (2001). Role of collagen IV and collagen-binding integrins in renal cell repair following toxicant injury. *Mol. Pharm*. 60: 1226-1234.

12. P.A. Nony, G. Nowak, and R.G. Schnellmann (2001). Collagen IV promotes the repair of renal cell functions following sublethal toxicant injury. *Am. J. Physiol. Ren Physiol*. 281:F443-F453.

13. P.A. Nony, J.D. Roberts, W.C. Glasgow, and K. Olden (2002). "15-Lipoxygenase-2 mediates arachidonic acid-stimulated adhesion of human breast carcinoma cells to type IV collagen". *Clin Exper Metastasis* (19, S1): 63, S-14.

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 Director, Toxicology and Occupational Health
 pnony@cteh.com

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Refereed Publications (continued):

14. P.A. Nony and R.G. Schnellmann (2001). Role of collagen IV and collagen-binding integrins in renal cell repair following sublethal toxicant injury. *The Toxicologist*, 60(1): 308, #1464.

15. P.A. Nony, G. Nowak, and R.G. Schnellmann (2000). Ascorbic acid-stimulated deposition of collagen IV is associated with repair of renal cell functions following sublethal injury. *The Toxicologist*, 54(1): 400, #1878.

16. Scallet, A.C., Nony, P.A., Rountree, R.L., and Binienda, Z.K. (2001). Biomarkers of 3-nitropropionic (3-NPA)-induced mitochondrial dysfunction as indicators of neuroprotection. *Ann. N. Y. Acad. Sci.* 939: 381-392.

17. P. A. Nony, G. Nowak, and R.G. Schnellmann (1999). Disruption of collagen type IV synthesis in renal proximal tubular cells by the nephrotoxicant dichlorovinyl-L-cysteine. *FASEB Journal*, 13(5, Part 1): A341 (263.6).

18. Nony, P.A., Scallet, A.C., Rountree, R., Ye, X., and Binienda, Z. (1999). 3-Nitropropionic acid (3-NPA) produces hypothermia and inhibits histochemical labeling of succinate dehydrogenase (SDH) in rat brain. *Metabolic Brain Disease*, 14(2): 83-94.

19. Nony, P.A., Scallet, A.C., Rountree, R., Ye, X., and Binienda, Z. (1997). 3-Nitropropionic acid (3-NPA) produces hypothermia and inhibits histochemical labeling of succinate dehydrogenase (SDH) in rat brain. 27th Annual Meeting; Society for Neuroscience Abstracts, 23(Part 2): 855.5.

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Abstracts:

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2. P. Nony (2018). "Preparing for and Responding to Post-hurricane Chemical and Biological Threats to Public Health and the Environment." Abstract presented at the 39th Annual Meeting of the American College of Toxicology, West Palm Beach, FL.

3. K. Tuttle and P. Nony (2017). "Vapor Intrusion and Chlorinated Solvents in Commercial and Industrial Settings." Abstract presented at the Alliance for Hazardous Materials Professionals 2017 National Conference, Fort Worth, TX.

4. P. Nony (2017). "Personal Protective Equipment (PPE) for

Responders and the Public." Abstract presented at the 2017 Clean Gulf Conference, Houston, Texas.

7. Harrill, J. A.; Wnek, S. M.; Cawthon, D. R.; Nony, P. A., and Kind, J. A. Derivation and Comparison of Occupational Exposure Limits (OELs) for Hydrocarbon Vapor Mixtures Emitted from Bakken and Non-Bakken Crude Oil. *The Toxicologist*. 2015; 144(1):38-39.

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9. Davis, C.; Kind, J.; Shelnut, S.; Nony, P., and Millner, G. (2011) Effective Monitoring and Protection of Workers and the Community during Waterway Chemical Spills. In. 21st Annual Clean Gulf Conference, San Antonio, TX.

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11. Cox, R.D. and Nony, P.A. (2010) "A Quantitative Method for Polychlorinated Dioxin/Furan Congener Source Comparisons." Abstract presented at Dioxin 2010 in San Antonio, TX.

12. Cox, R.D., Nony, P.A., and Liles, C.H. (2010) "Summary of Mortality Due to Diabetes and Diabetes-Related Conditions in Human PCB Cohort Studies." Abstract presented at Dioxin 2010 in San Antonio, TX.

13. P. Nony, D. W. Gaylor, G. C. Millner, A. C. Nye and J. Gandy (2008). "Residual PAHs, PCBs, PCDDs, and PCDFs in Soil and House Dust Following an Industrial Chemical Release and Fire." Abstract presented at the 47th Annual Meeting of the Society of Toxicology in Seattle, WA.

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CTEH**Abstracts (continued):**

14. J. Kind, P. Nony, and D. Hewitt (2008). "The Protective Effect of the Upper Airways Against Water Soluble Irritant Gas Exposure – A Case Study of Acute Ammonia Exposure." Abstract presented at the 47th Annual Meeting of the Society of Toxicology in Seattle, WA.

15. Courtney D. Sandau and Paul A. Nony (2006). "Quality Assurance-Quality Control (QA-QC) Requirements and Statistical Interpretation of PCBs in Fish and Sediment Samples for Litigation Involving Environmental Forensics." Abstract presented at Environmental Forensics: Chemical, Physical, and Biological Methods Conference, University of Durham, United Kingdom.

16. Nony PA, Nye, AC, Sandau, CD (2006). "PCB Data Validation and Interpretation For Establishing Fish Consumption Guidelines In The USA - A Texas Case Study." Abstract presented at the 26th International Symposium on Halogenated Persistent Organic Pollutants (Dioxin 2006), Oslo, Norway.

17. Laura L. Ferriby, Jeffrey S. Knutsen, Mark Harris, Paul Nony, Kenneth M. Unice, Dennis Paustenbach and Paul Scott (2006). "Evaluation of PCDD/F and Dioxin-like PCB Serum Concentration Data from the 2001-2002 National Health and Nutrition Examination Survey of United States Citizens." Abstract presented at the 45th Annual Meeting of the Society of Toxicology, San Diego, CA.

Presentations:

1. P. Nony, N. Mabile, J.T. Wilson (2018). "Controlled In-Situ Burn of Crude Oil in Extreme Cold Weather Conditions." Platform talk at the 2nd Annual Clean Waterways Inland River Response Conference, St. Louis, MO.

2. P. Nony (2018). "Preparing for and Responding to Post-hurricane Chemical and Biological Threats to Public Health and the Environment." Platform talk presented at the 39th Annual Meeting of the American College of Toxicology, West Palm Beach, FL.

3. P. Nony (2018). "Exposure Management: First Responder Fire Smoke Exposures." Platform talk presented at the Williams Fire & Hazard Control Xtreme Industrial Fire & Hazard Training, College Station, TX.

4. Nony, P. (2017) "Personal Protective Equipment (PPE) for Responders and the Public." Presented at the 27th Annual Clean Gulf Conference & Exhibition; Houston, TX.

5. Nony, P. and Cobb, H. (2017) "Case Study: Ash Coulee Incident, Belfield, ND" Presented at the 27th Annual Clean Gulf Conference & Exhibition; Houston, TX.

6. Nony, P. and Mc Kercher, W. "Vapor Intrusion." Platform talk presented to the Mississippi Manufacturers Association's 2016 Environmental & Safety Conference and Expo, Philadelphia, MS.

7. Nony, P. and Brady, P. (2016) "Community Air Quality Data During Accidental Release and Combustion of Crude Oil: Case Study of Crude Oil Train Derailments." Presented at the Clean Pacific Conference and Exhibition, Seattle, WA.

8. Nony, P., Mc Kercher, W., Hess, T, and Scribner, K. (2016) "Introduction to Vapor Intrusion." Presented at the Mississippi Department of Environmental Quality (MDEQ), Jackson, MS.

9. Nony, P. and Brady, P. (2016) "Air monitoring results from crude oil derailments and fires." Presented to the USEPA Region 10 Regional Response Team Northwest Area Contingency Committee Meeting, Boise, ID.

10. Nony, P. (2016) "Environmental, Energy, and Fracking: Regulatory, Compliance, and Litigation Issues in the Energy and Fracking Industries- A Toxicology Perspective." Presented at the American Bar Association Toxic Torts & Environmental Law Committee's 25th Annual Spring CLE Meeting, Phoenix, AZ.

11. Nony, P. (2016) "Preparing for Man-Made Catastrophes." Presented at C4: The CATIQ Canadian Catastrophe Conference, Toronto, ON, Canada.

12. Nony, P. (2015) "Efficacy of Shelter-In-Place Measures in Large-Scale Releases of Anhydrous Ammonia." Presented at the Ammonia Safety & Training Institute (ASTI) 32-Hour Ammonia Training; Watsonville, CA.

13. Nony, P. (2015) "Health & Physiology: A discussion on how the human body reacts when exposed to both common and hazardous chemicals." Keynote speech at the 7th annual Central Valley Chemical Safety Day Conference; Bakersfield, CA.

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Presentations (continued):

14. Nony, P. (2014) "Efficacy of Shelter-In-Place Measures in Large-Scale Releases of Anhydrous Ammonia." Presented at the Ammonia Safety & Training Institute (ASTI) 32-Hour Ammonia Training; Watsonville, CA.
15. Nony, P. (2014) "Incident Study: Crude Oil Train Derailments & Fires." Presented at the 21st Annual Advanced Flammable Liquid Firefighting Foam Technology Workshop; Beaumont, TX.
16. Nony, P. and Buckholtz, D. (2014) "Case Study: Minot, ND." Presented at the 27th Annual AAR/BOE Hazmat Seminar; Addison, TX.
17. Paul Nony (2013). "Best Practices in Emergency Response Air Monitoring." Northern California Community Awareness in Emergency Response (CAER) Industrial Hygiene Group, Rodeo, CA.
18. Paul Nony (2013). "Case Studies of Non-Accident Release (NAR) Chemical Incidents." 2nd Semi-annual Federal Railroad Association, Railroad HazMat Conference, Reno, NV.
19. Paul Nony (2012). "Case Study: Well Blowout Response Air Monitoring - Wyoming." Shale EnviroSAFE Conference, New Orleans, LA.
20. Paul Nony (2012). Presentation titled, "Principles of Chemical Emergency Response" presented at the PEMEX Sexto Seminario Internacional De Caracterizacion Y Remediacion De Sitios Impactados Por Hidrocarburos 2012, Mexico City, Mexico.
21. Paul Nony (2012). Presentation titled, "Industrial Hygiene in Chemical Emergency Response" presented to the ARKLATEX STEPS group in Marshall, TX.
22. Paul Nony (2012). Presentation titled, "Monitoring During a Chemical Spill" presented at the 25th Annual TCC/ACIT EHS Seminar in Galveston, TX.
23. Romano DeSimone, Paul Kurzanski, and Paul Nony (2012). Presentation titled, "Case Study: Painesville" presented at the 25th Annual AAR/BOE Hazardous Material Seminar, St. Louis, MO.
24. Paul A. Nony (2012). Invited lecture titled, "Air Monitoring, HazCom, and Risk Communication in Emergency Response" presented before the Texas Chemical Council Occupational Health and Safety Committee, LaPorte, TX.
25. Florine Clark, Scott Maris, Paul Nony, and Frederick Rom (2011). Panel discussion titled "When the Unthinkable Happens: Preparing for Industrial Catastrophes." Presented at the Annual Meeting of the Association of Corporate Counsel, Denver, CO.
26. Paul Nony (2011). "Effective Monitoring and Protection of Workers and the Community During Waterway Chemical Spills." Presented at the 28th Annual Virginia Hazardous Materials Conference & Expo, Hampton Roads, VA.
27. Paul A. Nony (2011). Invited lecture titled, "Case Studies in Managing Large-Scale Chemical Emergency Responses" presented at the PEMEX Quinto Seminario Internacional De Caracterizacion Y Remediacion De Sitios Impactados Por Hidrocarburos 2011, Mexico City, Mexico.
28. Paul A. Nony (2010). Invited lecture titled, "Integrating Air Monitoring into Incident Command" presented at the 2010 California Air Response Planning Alliance (CARPA) Summit-Air Response Training Program in Sacramento, CA.
29. Paul A. Nony and Cory Davis (2010). Invited lecture titled, "Protection of Workers and Communities Affected by Waterway Oil Spills" presented to the 10th Reunion Anual Seguridad, Salud y Proteccion Ambiental de PEMEX, Veracruz, Mexico.
30. Paul A. Nony (2009, 2010). Invited lectures titled "Toxicology of Ammonia" and "Efficacy of Shelter-In-Place Methods" presented at the Ammonia Safety and Training Institute's 32-hr "Managing Ammonia Emergencies" course in Castoville, CA.
31. Paul A. Nony (2009, 2010, 2011). Invited course lectures titled, "Toxicology for the Emergency Responder", "Air Monitoring", and "Selection of Personal Protective Equipment and Chemical Protective Clothing" presented at the Texas Engineering Extension Service (TEEX) Emergency Response Training Center in College Station, TX.
32. Paul A. Nony (2008, 2009, 2010, 2011). Invited course lectures titled, "Toxicology for the Emergency Responder", "Air Monitoring", and "Selection of Personal Protective Equipment and Chemical Protective Clothing" presented at the Transportation Technology Center, Inc.'s Security and Emergency Response Training Center in Pueblo, CO.

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33. Paul A. Nony (2009). "Establishing Community and Responder Action Levels" presented in the session titled, "Toxicology of Intentional and Unintentional Disasters" at the 48th Annual Meeting of the Society of Toxicology in Baltimore, MD.
34. Paul A. Nony (2009). "Public Health Impacts of Volcanic Activity" presented in the session titled, "Toxicology of Intentional and Unintentional Disasters" at the 48th Annual Meeting of the Society of Toxicology in Baltimore, MD.
35. Paul A. Nony (2009). Invited lecture titled, "Toxicology Support: Aiding Emergency Responders and Communities Impacted by Chemical Emergencies" presented at the USEPA Region 6 Local Emergency Planning Committee (LEPC) Conference in Corpus Christi, TX.
36. Paul A. Nony (2008) Invited lecture titled, "Hazards of Clandestine Methamphetamine Labs and Basic Toxicology for Fire Investigators" presented to the Mississippi Fire Investigators Association conference in Natchez, MS.
37. Paul A. Nony, Michael Austin, and Harry Hopes III (2008). Invited lecture titled, "Support: Aiding Emergency Responders and Communities Impacted by Chemical Emergencies" presented in partnership with CSX Transportation at the USEPA Region 3 Emergency Preparedness Conference in Richmond, VA.
38. Paul A. Nony (2008). Invited panelist and speaker at California Air Response Planning Alliance (CARPA) Summit titled, "Air Quality in Emergency Response: Monitoring, Modeling, Messaging and Media" Sacramento, CA.
39. Paul A. Nony (2007). Session Moderator for: "Emerging Quantitative Tools and Practices for Assessing Exposure", a platform session presented to the California Pollution Control Officers Association (CAPCOA) special meeting e titled, "Health Impacts of Air Pollution on Communities" September 19, 2007, Carson, CA.
40. Paul A. Nony (2006). Toxicology Emerging from the Laboratory: Applying Scientific Principles to Real-World Chemical Problems. Hendrix College, Conway, AR.
41. Paul A. Nony (2005). Environmental Medicine: Facts and Fiction about Chemicals and Health. Presented to senior students in the Environmental Medicine course in the College of Nursing at the University of Arkansas for Medical Sciences, Little Rock, AR.
42. Paul A. Nony (2005). The Resource Conservation and Recovery Act (RCRA). Presented to masters and doctorate level students in the Toxicology and Government Regulations course at the University of Arkansas for Medical Sciences, Little Rock, AR.
43. Paul A. Nony (2004). Introduction to the Resource Conservation and Recovery Act (RCRA). Presented to students in Toxicology and Government Regulations course, UAMS, Little Rock, AR.
44. Paul A. Nony, Mike Feamster, Glenn C. Millner, and Alan C. Nye (2004). Issues in Ecological and Human Health Risk Assessment. Presented to Remediation Staff of Burlington Northern Santa Fe Railroad, Fort Worth, TX.
45. Paul A. Nony (2004). Career Options in Toxicology for Biology Majors. Presented to Hendrix Biology Society, Hendrix College, Conway, AR.
46. Paul A. Nony (2003). Environmental Careers Panel, Invited Panelist, Hendrix College, Conway, AR.
47. Paul A. Nony (2003). Careers in Health-Related Professions, Invited Panelist, Hendrix College, Conway, AR.
48. Paul A. Nony (2002). The role of lipoxygenases in eicosanoid-stimulated tumor cell adhesion to type IV collagen. Presented to the Laboratory of Molecular Carcinogenesis, NIEHS, RTP, NC.
49. Paul A. Nony (2002). 15-Lipoxygenase-2 mediates arachidonic acid-stimulated adhesion of human breast carcinoma cells to type IV collagen. Presented to the 9th International Congress of the Metastasis Research Society, Chicago, IL.
50. Paul A. Nony (2001). The effects of collagens and integrins on physiological repair in renal cells. Presented to the Department of Biology, Hendrix College, Conway AR.
51. Paul A. Nony (2001). The role of collagen IV and collagen-binding integrins in renal cell repair following sublethal toxicant injury. Presented to the Laboratory of Molecular Carcinogenesis, NIEHS, RTP, NC.
52. PA. Nony, G. Nowak, and R.G. Schnellmann (2000) Ascorbic acid-stimulated deposition of collagen IV is associated with repair of renal cell functions following sublethal injury. Abstract presented by poster at Contemporary Concepts in Toxicology: Mechanisms of Nephrotoxicity and Nephrocarcinogenicity (Martha's Vineyard, MA) and at the Arkansas Toxicology Symposium (Little Rock, AR).

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53. P.A. Nony, G. Nowak, and R.G. Schnellmann (2000). Ascorbic acid-stimulated deposition of collagen IV is associated with repair of renal cell functions following sublethal injury. South Central Chapter/Society of Toxicology Annual Meeting (ULM, Monroe, LA).

54. P.A. Nony, G. Nowak, and R.G. Schnellmann (1999). Disruption of collagen type IV synthesis in renal proximal tubular cells by the nephrotoxicant dichlorovinyl-L cysteine. 1st Annual Seager-Braswell Science Symposium (UAMS, Little Rock, AR).

Doctoral Dissertation:

1. P. Nony. "Mechanisms Of Renal Cell Repair Following Acute Toxicant Injury." Dissertation (Ph.D.) - University of Arkansas for Medical Sciences, Little Rock, AR, 2001.

Appendix B

Documents reviewed and references

Documents Reviewed and References

I have reviewed the following material in order to respond to the findings and observations contained in the reports prepared by the NGT Committee:

- Air monitoring results since the 7 May 2020 incident from CSIR-NEERI, LGPI, and VIMTA
- NGT Committee Reports (Interim Report dated 17 May 2020 and Final Report dated 28 May 2020), annexures and orders
- The Preliminary Joint Report by CSIR- NEERI and CBRN dated 14 May 2020
- LGPI emergency planning documents (surprise mock drills and on-site emergency plans)
- LGPI Incident reporting (accident information)
- LGPI communications (Information to public, green Initiatives, misc. statements)
- Photos and videos of LGPI and surrounding area during and after incident
- LGPI safety and compliance documents (committee meeting, compliance, and inspection reports; safety audits, siren testing)
- Technical LGPI site documents (tanks, instruction manuals, maps, SOPs, schedules, equipment manuals)
- Interview reports from multiple witnesses and LGPI employees
- Meteorological data
- LGPI logs and monitoring schedules
- Description of accident

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<https://www.atsdr.cdc.gov/toxprofiles/TP.asp?id=421&tid=74>
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3. USEPA (2008) Styrene Interim Acute Exposure Guideline Levels (AEGLs): U. S. Environmental Protection Agency. Available at: <https://www.epa.gov/aegl/styrene-results-aegl-program>.
4. IARC (2019) 'STYRENE, STYRENE-7,8-OXIDE, AND QUINOLINE', IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, 121. <https://publications.iarc.fr/Book-And-Report-Series/Iarc-Monographs-On-The-Identification-Of-Carcinogenic-Hazards-To-Humans/Styrene-Styrene-7-8-oxide-And-Quinoline-2019#:~:text=Quinoline%20is%20used%20to%20produce,metabolite%20of%20styrene%20in%20humans>.
5. NTP (2016) 14th Report on Carcinogens: National Toxicology Program. Available at: <https://ntp.niehs.nih.gov/pubhealth/roc/index-1.html>.
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13. IARC (2002) Some Traditional Herbal Medicines, Some Mycotoxins, Naphthalene and Styrene. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Lyon, France: IARC Press. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4781602/>
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15. USEPA (2008) Styrene Interim Acute Exposure Guideline Levels (AEGs): U. S. Environmental Protection Agency. Available at: <https://www.epa.gov/aegl/styrene-results-aegl-program>.
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Appendix C

Medical Record for Mr. M. Narasinga Rao

BY REGD. PO ACK DUE

Visakhapatnam
Date : 28 June 2020

From
M Narasimha Rao
D. No. 2-98, Ganesh Nagar
Yellapuvanipalem, Gopalapatnam Post
Visakhapatnam-530 027.

Received by
read - port G

- 3 JUL 2020

To
The District Collector,
Visakhapatnam Dist.
Maharanieta,
Visakhapatnam, A.P.

Respected Sir,

Sub:- **VICTIM OF LG POLYMERS GAS LEAKAGE.**

I, M Narasimha Rao, Aged 78 years, resident of Ganesh Nagar, D. No. 2-98, Yellapuvanipalem, Gopalapatnam Post, Visakhapatnam would like to bring the following few lines for you kind consideration and arranging financial compensation for the victim of M/s. LG Polymers gas leakage.

2. On 07 May 2020 at 04-30hrs (morning), due to chemical smell, I was felt breathing problem and my mind became dull and sleepy. I was also loosing my memory. My wife started closing all the windows taken me to the other room. At that time phone call has come from my eldest son, who is residing at Butchirajupalem, then only I came to know about the GAS leakage accident of M/s. L G Polymers, R R Venkatapuram, asked us to come to his house. Where there is also gas smell. About 05-30 hrs my son-in-law came with transport, taken us to his house at Purusothapuram. But we found that there was also gas leakage smell. Finally, we shifted to my nice house at Kommadi.
3. Due to ill health, I was taken to Dr. M V V Gandhi, M.D. (Physician), Asst. Professor, AMC, KGH at Samudra Hospitals, Visakhapatnam for consultation. After tests he diagnosed due to exposure to styrene gas it has happened and suggested to admit in the KGH. Due to COVID-19 cases, I was not admitted in the KGH and opted for medicine. Dr Gandhi prescribed medicines, copy of the prescription is enclosed herewith as Enclosure-I.
4. As there is no improvement, on 08 May 2020, I was taken to KIMS ICON Hospital, Sheelanagar, Visakhapatnam. After blood test, Urine test, X-Ray and EMRI Brain test etc., hospital authorities confirmed that my ill health is due to exposure of styrene gas leakage. Advised me to admit in the hospital for treatment. Due to COVID-19 cases in Visakhapatnam, considering my age (78 Years), I was afraid to join in the hospital. Finally, KIMS doctors prescribed medicines and I

H. narasimha Rao

Contd.. Page... 2

000001

PTO

2

consumed the medicines. I am herewith enclosing copies of the following documents for your ready reference.

- Out patient assessment record- Enclosure-II
 - Out patient assessment record- Enclosure-III
 - Urine examination report- Enclosure-IV
 - Blood count report- Enclosure-V
 - Parameters of Blood urine report - Enclosure-VI
 - X-ray report - Enclosure-VII
 - EMRI Brain report - Enclosure-VIII
 - Copy of my aadhar - Enclosure-IX
5. I had spent huge amount towards my treatment including tests, consultation and transportation etc., I had to suffer illness and mental agony at the age of 78 years. *due to STYRENE GAS LEAKAGE OF L.B. POLYMERS,*
6. In view of the above facts, I request you to kindly arrange necessary compensation towards my medical expenditure and other expenditure based on reports as a special case.

Thanking you sir,

Yours sincerely

M. Narasimha Rao

(M NARASIMHA RAO)
9866867652

Copy to :

1. The commissioner, GVMC, Visakhapatnam
2. ✓ The Managing Director,
M/s. LG Polymers, RRV Puram, Visakhapatnam - For immediate action
3. Shri Muttemsetty Srinivasa Rao garu
Hon'ble Minister of AP Tourism,
MLA Bihmily Assembly Constituency,
Visakhapatnam - For kind perusal

000002

Dr. M.V.V. Gandhi

M.D. (Physician)

Regd. No. 47723

Asst. Professor of Medicine

AMC K.G.H

Cell : 99129 40602



Emelasure - 1

SAMUDRA HOSPITAL

18-1-25, Besides Andhra Bank

KGH Down, Maharanipecta

Visakhapatnam - 530 002

☎ 0891-2533955

Date : 08.05.2020.

NAME : S. Navasim Kero.

AGE / SEX : 70y / Male.

PULSE : 95b.

BP : 130/80mm

WEIGHT : -

SpO₂ : 97%.

Temp : N.

W/O. Proctopathy. / Blin Grad ⊕.

Pt in Attent Sensui.

? Dry Insulin Hypotension

. H/o exposure to styrene gas ab

Pt on Hydrochloride.

1) Ges. MONZEM - Fa ⊕

— PAH1

2) Ges. UZOMAC 600 ⊕

1 →

3) Temporarily stop ASA

As: S. Glutis - Not

RRS - PPA.

Vu ds.

Vu routine

Pt Advice admit
Adv to other k/b
H/o at fr
further maner

Give c prognosis explain

000003 For Appointment Contact : 94925 33955

Format No : KIMS/F0/F/02

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 A UNIT OF ICON KRISHI INSTITUTE OF MEDICAL SCIENCE PVT.LTD
 32-11-2 ,SHEELA NAGAR,BHPV POST,VSP- 530012.
 Ph : 0891-7100100

3
ENCLOSURE - II

OUT PATIENT ASSESSMENT RECORD

Patient Name : Mr. M NARASIMHA RAO Age/Gender : 78Y(s)/Male UMR No : UMR1799
 S/D/W. Of. : M RAMLINGAESWARA RAO Occupation : Not Specified Reg. Date : 09-May-2020
 Mother Name : Martial Status : Married Religion : Hindu
 Address : YELLAPUVANI PALEM,GANESH NAGAR,GOPALPATNAM , VISAKHAPATNAM Patient Type : Corporate Nationality : Indian
 P.Type : KIMS Mobile No : 9000256067 **Token No A1799**

Consultation.No : OPC2021002601 Consultation.Date : 09-May-2020 12:26:54PM
 Consultant.Name : Dr. B SRIRANGA PRAKASH GUPTA Dept : GENERAL MEDICINE
 DNB Location : OPD BLOCK / ROOM NO 24

PR : 80/min BP : 120/80mmHg RR : 20bpm Temp : 37°C Ht : 160cm Wt : NA BMI : NA
 Pain Scale : Nutritional Status: Well Nourished, Moderately Nourished, Severely Malnourished

Date & Time	Clinical Notes / Investigations	Treatment
	H/o altered taste: 2 days. ? slowly withdrawn from work. Adh ① CBC ② RFT ③ UFE R/w neurologist	H/o ? BPH

For Appointment Contact : 0891-7100100 Next Review Date : For Emergency Contact : 0891-7100108
 Note : If there are any side effects with the medicine, stop the medicine and report immediately to the hospital.

CREATEBY : 41010734
 UMR1799

CREATEDT : 09-05-2020 12:26:54 Please Sign after all entries



000004



Format No : KIMS/F0/F/02



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 Ph : 0891-7100100

ENCLOSURE - III

OUT PATIENT ASSESSMENT RECORD

Patient Name : Mr. M NARASIMHA RAO	Age/Gender : 78Y(s)/Male	UMR No : UMR1799
S/D/W. Of. : M RAMLINGAESWARA RAO	Occupation : Not Specified	Reg. Date : 09-May-2020
Mother Name :	Martial Status : Married	Religion : Hindu
Address : YELLAPUVANI PALEM,GANESH NAGAR,GÓPALPATNAM , VISAKHAPATNAM	Patient Type : Corporate	Nationality : Indian
P.Type : KIMS	Mobile No : 9000256067	Token No A1799
Ref.Dr.Name & Ph. No : B SRIRANGA PRAKASH GUPTA 9490642132		

Consultation.No : OPC2021002620	Consultation.Date : 09-May-2020 01:15:20PM
Consultant.Name : Dr. KIRAN BUDDARAJU	Dept : NEUROLOGY
MD.(GENERAL MEDICINE), DM(NEUROLOGY)	Location : OPD BLOCK / ROOM NO 8

PR :	BP :	/	RR :	Temp :	Ht :	Wt :	BMI :
							Nutritional Status Well Nourished <input type="checkbox"/> Moderately Nourished <input type="checkbox"/> Severly Malnourished <input type="checkbox"/>

Date & Time	Clinical Notes / Investigations	Treatment
	Acute onset behavioural changes from 2day, K/c/o prostatomegaly. H/o exposure to styrene gas. HTN (+) cystoscopy - severe cystitis & tuberculous. Adv Admit ↓ Dr.Kiran ↓ Neurology MRI Brain (N), CBC, RFT, LFT, CXR. urine culture	

For Appointment Contact : 0891-7100100 Next Review Date : For Emergency Contact : 0891-7100108

Note : If there are any side effects with the medicine, stop the medicine and report immediately to the hospital.

CREATEBY : 41010734

UMR1799



000005

CREATEDT : 09-05-2020 13:15:20

OPC2021002620



Please Sign after all entries

contd... Page... 2...

P.T.O

Page 2 -

Q.

T. Tasulin - D - 0-0-1

T. Cefuroxime 500 - 1-0-1

Ivf 100ml NS c of theuron over 1hr

Inj. Thiamine 100mg IV 1-0-1

Continue HTN Rx

~~Refused~~

B-K

7008

c/s/B Dr. Kizer

Rep

~~T. Tasulin - D. 0-0-1 x Daily (1 month)~~
(SP)

~~T. Cefuroxime 500 1-0-1 x 4d~~
(S) (S)

~~T. Benfmet forte 1-0-0 x 2wks~~
(S)

~~Syp. looz 15ml H/s SOS -~~

~~I/ Piritipin 25mg H/c SOS~~

B.K

7008

000006


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ENCLOSURE-TV

DEPARTMENT OF PATHOLOGY

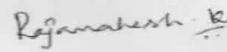
Patient Name : Mr. M NARASIMHA RAO	Age / Gender : 78 Y(s)/Male
Bill No/ UMR No : BIL2021003374/UMR1799	Referred By : Dr. KIRAN BUDDARAJU MD.(GEN)
Received Dt : 09-May-20 03:00 pm	Report Date : 09-May-2020 04:29 pm

COMPLETE URINE EXAMINATION

Parameter	Specimen	Results	Method
PHYSICAL EXAMINATION			
Colour.	Urine	Yellowish	Manual
Appearance		Clear	Manual
Reaction (PH)		6.5	Reagent strip method
Specific gravity		1.025	PH indicators
CHEMICAL EXAMINATION			
Glucose		Nil	Reagent strip method-Dia screen 50
Protein		1+	Protein error of indicator
Ketone bodies		Negative	Rotheras
Bilirubin		Negative	Reagent strip method-Dia screen 50
Urobilinogen		Normal	Fast blue color
Blood		Present	Benzidine
NITRITES		Positive	
MICROSCOPIC EXAMINATION			
Epithelial Cells		1 - 2/HPF	Light microscopy
Pus Cells		8 - 10/HPF	Light microscopy
R.B.C.		10 - 12/HPF	Light microscopy
Casts		Nil	Light microscopy
Crystals		Nil	Light microscopy
Others		Bacteria present	Light microscopy

*** End Of Report ***

Suggested Clinical Correlation * If necessary, Please discuss
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Dr. RAJA MAHESH.K
CONSULTANT PATHOLOGIST

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DEPARTMENT OF PATHOLOGY

ENCLOSURE-V

Patient Name : Mr. M NARASIMHA RAO	Age / Gender : 78 Y(s)/Male
Bill No/ UMR No : BIL2021003374/UMR1799	Referred By : Dr. KIRAN BUDDARAJU MD.(GEN)
Received Dt : 09-May-20 03:00 pm	Report Date : 09-May-20 04:09 pm

COMPLETE BLOOD COUNT

Parameter	Specimen	Results	Biological Reference	Method
Haemoglobin	EDTA Blood	11.3	11.0 - 16.0 gms%	Cyanmethaemoglobin
WBC Count		8,700	4000 - 11000 cells/cumm	Impedance
Haematocrit(PCV)		34.0	40 - 50 %	Impedance
RBC Count		4.44	4.5 - 5.5 Millions/cumm	Impedance
Mean Cell Volume (MCV)		76.7	80 - 97 fl	Calculation
Mean Cell Haemoglobin (MCH)		25.5	26.5 - 33.5 pg	Calculation
Mean Cell Haemoglobin Concentration (MCHC)		33.2	31.5 - 35.0 gms%	Calculation
Platelet count		4.08	1.4 - 4.5 Lakhs/cumm	Impedance/ Light Microscopy
RDW		14.6	11.6 - 14.0 %	Pulse height analysis
DIFFERENTIAL COUNT				
Neutrophils		72	45 - 75 %	VCS/ Light microscopy
Lymphocytes		17	20 - 45 %	VCS/ Light microscopy
Eosinophils		03	1 - 6 %	VCS/ Light microscopy
Monocytes		08	2 - 10 %	VCS/ Light microscopy

*** End Of Report ***

Suggested Clinical Correlation * If necessary, Please discuss

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Rajamahesh K

Dr. RAJA MAHESH.K

CONSULTANT PATHOLOGIST

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Andhra Pradesh, India.
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DEPARTMENT OF CLINICAL BIOCHEMISTRY

ENCLOSURE - VI

Patient Name : Mr. M NARASIMHA RAO	Age / Gender : 78 Y(s)/Male
Bill No/ UMR No : BIL2021003374/UMR1799	Referred By : Dr. KIRAN BUDDARAJU MD.(GEN)
Received Dt : 09-May-20 03:00 pm	Report Date : 09-May-20 03:46 pm

Parameter	Specimen	Results	Biological Reference	Method
Blood Urea	Blood	21	12.6 - 42.6 mg/dl	Urease-GLDH
Creatinine		0.86	0.5 - 1.5 mg/dl	Modified Jaffe-Kinetic
ELECTROLYTES				
Sodium		134	135 - 155 mMol/L	Indirect ISE
Potassium		3.4	3.5 - 5.5 mmol/L	Indirect ISE
Chloride		93	98.0 - 107.0 mmol/L	Indirect ISE
RANDOM PLASMA SUGAR				
Random Plasma Glucose		104	70 - 150 mg/dl	HK G6P-DH
LIVER FUNCTION TEST WITH PROTEINS				
Total Bilirubin		0.44	0.3 - 1.2 mg/dl	Jendrassik-Grof
Direct Bilirubin		0.09	0.0 - 0.2 mg/dl	Diazo end point
Indirect Bilirubin		0.35		Calculation
SGPT/ALT		22	5.0 - 40.0 IU/L	IFCC without P5P
SGOT/AST		25	5.0 - 45.0 IU/L	IFCC without P5P
Alkaline Phosphatase		62	38 - 119 IU/L	4-PNPP/Amp kinetic
TOTAL PROTEIN		6.70	6.3 - 8.2 gm/dl	Biuret
ALBUMIN		3.62	3.5 - 5.0 g/dl	Bromocresol Green
Globulin		3.08	2.0 - 3.5 gm/dl	Calculation
A/G Ratio		0.54		

*** End Of Report ***

Suggested Clinical Correlation * If necessary, Please discuss

Verified By : : 41010142

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Y. Aruna
Dr. ARUNA YARASANI, M.D.
CONSULTANT BIOCHEMIST

Dr. ARUNA YARASANI
M.D.
CONSULTANT BIOCHEMIST

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Ph : 0891-7100100

DEPARTMENT OF RADIOLOGIC SCIENCES ENCLASURE-VII

Patient Name : Mr. M NARASIMHA RAO	Age / Gender : 78 Y(s)/Male
Bill No/ UMR No : BIL2021003374/UMR1799	Referred By : Dr. KIRAN BUDDARAJU MD.(GEN)
Received Dt : 09-May-20 02:54 pm	Report Date : 09-May-20 06:18 pm

IMPRESSION

- ** Bilateral fronto-parietal periventricular white matter T2 / FLAIR hyperintense foci seen - S/o Ischemic foci.
- ** Focal FLAIR / T2 hyperintense foci seen in pons bilaterally - Likely ischemic / demyelinating foci.
- ** Mild mucosal thickening seen in bilateral ethmoid and right sphenoid sinuses.

Dr. SIRASAPALLI CHINNA, MBBS, DNB.
CONSULTANT RADIOLOGIST

Page 2 of 2

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Ph : 0891-7100100

DEPARTMENT OF RADIOLOGIC SCIENCES *ENCLOSURE - VIII*

Patient Name : Mr. M NARASIMHA RAO	Age /Gender : 78 Y(s)/Male
Bill No/ UMR No : BIL2021003374/UMR1799	Referred By : Dr. KIRAN BUDDARAJU MD.(GEN)
Received Dt : 09-May-20 02:54 pm	Report Date : 09-May-20 06:18 pm

MRI BRAIN

FINDINGS

Bilateral fronto-parietal periventricular white matter T2 / FLAIR hyperintense foci seen - S/o Ischemic foci.

Focal FLAIR / T2 hyperintense foci seen in pons bilaterally - Likely ischemic / demyelinating foci.

Rest of the brain parenchyma shows normal signal intensity pattern.

The ventricular system, cortical sulci and basal cisterns appears within normal limit.

No shift of midline structures.

Sella and pituitary gland appears within normal limit.

Both orbits are normal.

Mild mucosal thickening seen in bilateral ethmoid and right sphenoid sinuses.

Page 1 of 2

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Printed On : 09-May-2020 06:18:36 PM

System Name : TYP4-PC

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CIN : U85110AP2018PTC108133

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ENCLOSURE - IX

భారత ప్రభుత్వం
GOVERNMENT OF INDIA
 మేడికొండూరి నరసింహ రావు
Medikonduri Narasimha Rao



పుట్టిన సంవత్సరం / Year of Birth: 1942
 పురుషుడు / Male

7418 9446 5941

ఆధార్ - సామాన్యుని హక్కు

భారత విశిష్ట గుర్తింపు ప్రాథికార సంస్థ
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

విజయవాడ: S/O మేడికొండూరి రామలింగయ్య
 లేట్, 2-98 గణేశ నగర్, ఎల్లపువనిపాలెం
 కమ్యూనిటీ హాల్ ప్రక్కన, గోపాలపట్నం
 గోపాలపట్నం, విశాఖపట్నం, ఆంధ్ర ప్రదేశ్, 530027

Address: S/O Medikonduri
 Ramalingayya Late, 2-98
 ganesh nagar,
 Yellapuvanipalem, beside
 community hall,
 Gopalapatnam,
 Gopalapatnam (rural),
 Gopalapatnam,
 Visakhapatnam, Andhra
 Pradesh, 530027

1847
 1800 180 1847

help@uidai.gov.in

www.uidai.gov.in

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 మేడికొండూరి - 546691

M. narasimha Rao

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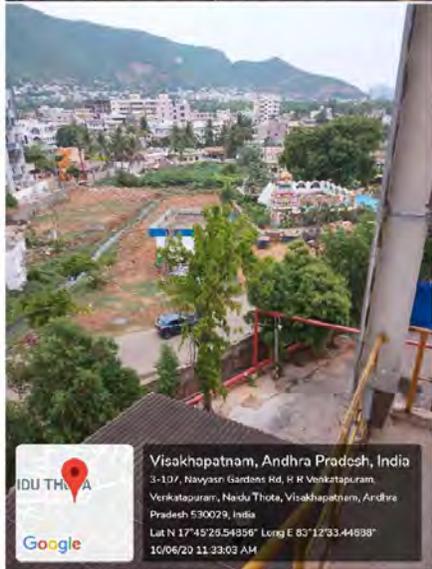
Appendix D

Photos of Vegetation Surrounding LGPI

Photos of the Vegetation Surrounding the LGPI Plant



View from north side of LGPI property facing northwest. No damage to vegetation is visible, even at ground level. This photo shows that the vegetation in this direction was not exposed to levels of styrene sufficient to cause foliar damage.



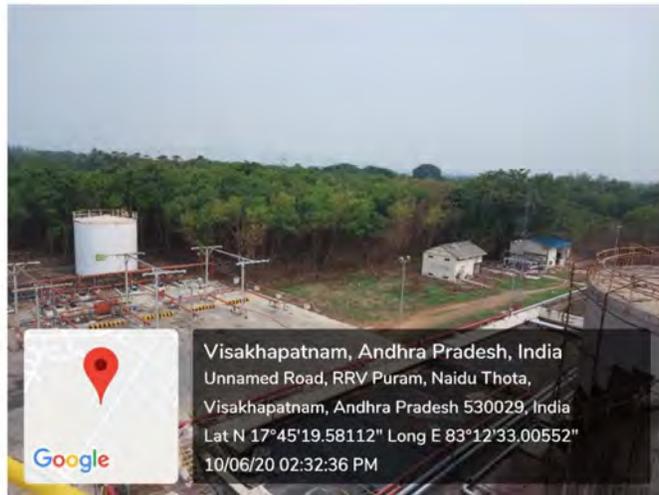
View from north side of LGPI property facing north-northeast. No damage to vegetation is visible, even at ground level. This photo shows that the vegetation in this direction was not exposed to levels of styrene sufficient to cause foliar damage.



View from tank area facing east. Despite the close proximity of these trees lying to the east of the tank farm, no damage to vegetation is visible. This photo shows that the vegetation in this direction was not exposed to levels of styrene sufficient to cause foliar damage. Upper and lower portions of the trees appear healthy in this photo.



View from tank area facing southeast. This photo shows minimal damage only to low vegetation on one or two of the trees closest to the tank area. This suggests that the vapor did not travel to the southeast of the M6 tank in concentrations potentially harmful to foliage much beyond the immediate tank area.



View from tank area facing south-southeast. Minimal foliar damage is present in a few of the trees, with more leaf browning noted to the south than southeast. Note the lack of houses in this direction.



View of M6 and M7 tanks facing south. Only foliage on the lower portions of vegetation appears to have been potentially affected. Green grass is present at ground level. Both of these findings suggest that the environment on the south side of the tank farm has not been significantly affected. No houses are immediately to the south.



Southwest corner of LGPI facility showing M6 and M7 tanks, facing south. Trees to the south of the tanks appear to be affected on the bottom portions. Trees shown to the southwest and west of the tanks are affected from top to bottom, suggesting that the vapor cloud directly adjacent to the tank area was taller in this direction compared to south of the tank area.



M6 and M7 tanks facing southwest. Trees to the south of the tanks are only affected on lower portions, suggesting that the vapor cloud was lower to the ground than to the west and southwest.



South side of LGPI property facing Southwest. A few short trees onsite at LGPI are affected top to bottom and tall trees are affected on lower portions only in the southwest direction.



View from M5 tank facing west-southwest. A clear pattern of vegetation damage is evident in the trees immediately to the west and southwest of the tank farm, with the foliar damage stopping just before the residences in the distance. Note the line of green trees in between the houses and the foliar damage, which indicates that 1) the vapor cloud did not spread to that distance, 2) the vapor cloud was not as tall in that area, or 3) the vapor diluted (resulting in decreased concentration) before it reached the residences.



West side of plant facing west. Partial foliar damage is noted in these trees to the west of LGPI. Compared to areas to the west and southwest of the M6 tank, the vapor cloud was not as high in this location. Groundcover vegetation has regrown.



View from M5 tank facing west-northwest. A well-demarcated area of foliar damage is evident in this photo, showing that the vapor cloud containing a concentration sufficient to damage the foliage was restricted to this area west of the tank farm. Trees in areas farther to the northwest and north appear to be healthy.

ANNEXURE - F**Expert Statement of****Rakesh Dubey, MSc, M.Phil, PhD**

Styrene Monomer Vapour Release of 07 May 2020 at the

LG Polymers India Factory

in Visakhapatnam, Andhra Pradesh, India

08 November 2020

A. Introduction and Qualifications

My education includes a bachelor's degree in Chemistry, Botany, and Zoology from Bundelkhand University (1977), and master's degree in Chemistry from Vikram University (1979). I also obtained a Master of Philosophy degree in Chemistry (1980) and a Ph.D. in Chemistry (1994), both from Vikram University. Relevant to this case, I also hold course certificates in Environmental Impact Assessment and Auditing from the University of Bradford (1996), Environmental Management from the Centre for Industrial and Commercial Training in Middlesbrough, UK (1996), Environmental Planning from Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) in Eschborn, Germany (1996), Curricula Development in Spatial Environmental Planning and City Planning from the German Federal Ministry for Economic Cooperation and the Ministry of Environment, Forest and Climate Change (MOEF&CC), Government of India (2002), and Disaster Management and Emergency Response System with special reference to Hazardous Industries under the Norwegian Agency for Development Cooperation (NORAD) Project supported by the Norwegian Government (2003). I also participated in the 2010 United Nation's Conference on Disaster Reduction in Kobe, Japan.

I have been involved in capacity development for various stakeholders of state and national agencies and, as a project and senior research officer for Environmental Planning and Coordination Organisation (EPCO) the Government of Madhya Pradesh from 1982-1996, I aided in environmental planning, research, and impact assessment at a supervisory level. I was selected as one of the members of the Working Group Committee constituted by the Central Pollution Control Board (CPCB) in June 1994 for the drafting of Guidelines for the Preparation of Zoning Atlas for Siting of Industries at the district level. I also served as one of the professional members at EPCO team that provided consulting services for Environmental Impact Assessment (EIA) for various sectors. During my services I was involved with Environmental Appraisal Reports (EAR) involving paper and pulp, pharmaceutical, petrochemical, cement, fertilizer, mining, and other chemical industries. In the State of Madhya Pradesh, EARs were prepared for upcoming or capacity enhanced industrial projects for environmental clearance (EC). Additionally, I have worked as a team member in preparation of an Environmental Management Plan (EMP) for the Chirimiri open cast mines of Southeastern coal fields in Chhattisgarh State. I

have also been nominated as an expert member by the Housing and Environment Department of Madhya Pradesh for Industrial Health and Safety committees.

Looking to my performance in EPCO, I was deputed as Joint Director at the Disaster Management Institute (DMI), Government of Madhya Pradesh, Bhopal. My duties included being the Head of Branch for the management of chemical and industrial disasters. Safety audits, HIRA, On-site and Off-site emergency management plans, and mock drills in hazardous industries/sites were initiated under my leadership. From August 2004 until my retirement in March of 2020, I served as Director for the DMI, where I led disaster risk reduction and worked with the National Disaster Management Authority (NDMA), the Planning Commission for the Government of India, MOEF&CC, and PNGRB, Government of India, and for NABCB for accreditation and certification. In 2007, the NDMA nominated me as one of the core group members for producing the “National Guidelines of Chemical/Industrial Disaster Management” and in 2010 designated me as the coordinator for making guidelines on “Strengthening of Safety and Security for Transportation of POL Tankers”. The Government of India also nominated me as one of the members of the Working Group on Disaster Management for the Planning Commission (11th and 12th 5-year plans). In addition, I served as Technical Director for the “National Action Plan on Chemical/Industrial Disaster Management (NAP-CIDM)” 2015 document, which targeted the development of national risk framework and amendment of existing regulations, capacity building, relief & rehabilitation, development of national mechanisms of coordination with other agencies, and the best practices by other global agencies, etc. for MOEF&CC, Government of India. The scope of NAP-CIDM was to develop an action plan nationwide to reduce chemical risks during manufacturing, storing, transporting and in industries with the goal of zero chemical/industrial disasters. Besides the above, I have provided leadership in making On-site and Off-site emergency management plans to various hazardous industries and districts respectively of various states of India. I also carried out numbers of safety audits as per IS 14889:2018, risk assessments, and mock-drills across the country in hazardous industries. Here, it is worth mentioning that I have provided technical leadership with NDMA in organizing off-site mock-drills at various places in the country. With the Petroleum and Natural Gas Regulatory Board (PNGRB), I also developed an “Emergency Response and Disaster Management Plan (ERDMP) Regulations” in 2010 for disaster management plans of mid and downstream oil and gas sectors. During my service as Director, about 170 ERDMP documents

for oil refineries, cross-country gas pipelines, City Gas Distribution (CGD), air fueling system (AFS) of airports, LPG bottling plants, bulk depots, etc., have been certified in line with ERDMP Regulations, 2010. Providing training to NDRF and 101 Chief Judicial Magistrates (CJMs)/District Registrars has been my best contribution to the country in the area of chemical/industrial disaster management. Besides, various states' officers of Chief Inspectorates of Factories/Directorates of Industrial Health and Safety/DOF have been also trained under my leadership at the Disaster Management Institute, Bhopal.

I have provided leadership to establish the Disaster Management Institute, Bhopal. Thus, I am well equipped to opine on the matters associated with the LG Polymers India (LGPI) accident on 7 May 2020.

Based on my expertise, education and experience, I was asked by LGPI to review and opine on LGPI's response to the 7 May 2020 accident, as well as to review and opine on certain conclusions of the HPC in its July 2020 report.

B. Sources of Information and Materials Reviewed

A list of the references I have relied upon for the purpose of this statement is set forth in **Appendix A**. I have also reviewed the reports prepared by the Committee created by the National Green Tribunal (NGT). In addition to these materials, I am also drawing upon my education, training, and experience.

C. Summary of Preliminary Observations

Upon a preliminary investigation of the information provided to me regarding this case, I have made the following preliminary observations. I reserve the right to change my opinion on any of these matters if new information becomes available.

1. LG Polymers employees took important steps to immediately call emergency response services (fire, police, ambulance) as the accident was occurring, then worked for hours to prevent fire and explosion, the most serious risks associated with styrene monomer vapor release, according to the published literature.

2. Styrene is known to be short-lived in the environment following a release. However, a thorough evaluation of the air, water, and soil testing data collected to date indicates that styrene levels are below the recommended screening levels/ standards. For completeness, the testing of all parameters is ongoing even at present by experts retained by LGPI.

D. Observations

I am responding to the findings of the Committee constituted by the NGT (hereinafter referred to NGT Committee) vide its order dated 08 May 2020. Pursuant to the order of the NGT, two reports have been issued by the NGT Committee, an interim report dated 17 May 2020 (Interim Report), and a final report dated 28 May 2020 (Final Report). Additional observations are also included when appropriate.

1.0 Emergency Response

1.1 Initial Response

On 7 May 2020, LGPI had an incident involving a styrene monomer (SM) vapour release associated with altered operations due to the local COVID-19 lockdown. Styrene auto-polymerises when temperatures in the storage tank become elevated. As a response to the incident, several actions were carried out on the morning of the incident to try to bring the reaction under control and prevent an explosion, which has occurred in many emergency scenarios involving styrene monomer.

It is important to note that fire and explosion accidents are historically the most likely and most dangerous potential outcome known in accidents involving styrene. Thus, initial emergency action steps were taken to prevent these outcomes. In the 2020 Emergency Response Guidebook (ERG, 2020) prepared by the US Department of Transportation (USDOT), the hazard of greatest concern following a chemical spill or leak is listed first, followed by hazards of lesser concern. In the case of styrene, fire and explosion are listed first, with health hazards listed farther down the page. Based on the design of the ERG, this means that health hazards are a second priority (less important) compared to fire and explosion in release events (ERG (2020)). SM vapours are explosive in the air at concentrations between 0.9 and 6.8 per cent by volume if an ignition

source is present. In most European countries, strict occupational exposure limits (OELs) are set for highly toxic chemicals. A review of styrene OELs meant for daily 8-hour exposures across Europe reveals that a range from 2.4 to 100 ppm exists, which indicates that styrene is not considered a highly toxic chemical (Plastic Europe (2018)). Thus, the 2020 ERG has advocated for styrene's flammability and explosive potential as first priority in emergency scenarios involving this chemical.

In the context of the safety response preparedness of LGPI and their response to the incident, the Final Report (p.15, paragraph 6(b)) erroneously observes as follows:

“the Unit’s inability to access personal protective equipment in a timely manner, safety response preparedness of the site had an impact on the early stages of safety operations”. Further, the Final Report also notes that *“the public siren system could not be activated as it was manual and in an area inaccessible by the vapour cloud, else people in the surrounding area could have been alerted quickly and saved.”*

My response to these observations is as given below.

1.1.1 Emergency Response

According to the sequence of events captured in the Final Report, the Distributed Control System (DCS) alarm system detected a gas release at 2:54 am. The LGPI security officer in charge then initiated action at 3:07 am to obtain off-site assistance from fire and ambulance services. Rather than wasting time, this was performed prior to the arrival of the Safety Head and Director of Operations, who arrived shortly thereafter at 3:30 am.

LGPI management took action to control the SM vapour release following careful consultation of the SOP and safety protocols. Emergency inhibitor chemicals used to prevent auto-polymerization, such as n-dodecyl mercaptan (NDM), Tertiary Dodecyl Mercaptan (TDM), and Antioxidant (Eunox-76), were made available for usage by LGPI at 4:32 am. Immediately, several steps were taken to control the reaction and prevent an explosion.

The team onsite carried out emergency response operations initially by operating the sprinkler systems, followed by adding high-temperature inhibitors including TDM & NDM into the M6 Storage Tank. These actions served to harness the reaction. Air pollution was monitored in

parallel during this time. Despite progress, the conditions in the tank were not responding quickly enough to the addition of inhibitors by that evening. The temperature in the tank then gained momentum, reaching a high point of 154°C by 10:45 p.m. To assist with controlling the heat of reaction, water was also poured into the tank using the foam pourer and steps were taken to control external cooling. Thus, the team carried out the initial response in the quickest possible manner. Because of these early actions by LGPI, the intensity of the styrene reaction was drastically reduced, per the sequence of events. These actions prevented a potential worst-case outcome of an explosion.

1.1.2 Preparation of an on-site emergency plan

As per the statutory requirements contained in Rule 13 of the Manufacture, Storage, and Import of Hazardous Chemical Rules, 1989 (MSIHC Rules), an occupier is required to prepare and keep up-to-date an on-site emergency plan. As part of this obligation, LGPI had prepared and regularly updated its On-Site Emergency Plan (Plan), with the last update to the Plan being undertaken during the lockdown, on 14 April 2020. The Plan had received the approval of the Director of Operations.

Such updation of the Plan reflects that LGPI included updates not only to comply the regulatory compliance but to update its preparedness to combat any type of chemical emergencies.

All previous versions of the Plan were submitted to relevant authorities and no non-compliance was received. Therefore, in my view, LGPI acted in compliance with the statutory requirements of the MSIHC Rules, and per the satisfaction of regulatory authorities.

1.1.3 Failure in Switching on the Siren

In relation to the activation of a siren, it is true that LGPI employees did not blow the siren because the siren is blown to declare the emergency, alerting the employees to take appropriate action can be taken by plant and district administration; however, these early actions were already underway according to the timeline of events. Also, it is clear from the Plan that both the initial emergency siren and “all-clear” siren are meant to communicate with employees on-site, not residents in the surrounding community. According to the Plan, it is responsibility of the *“Plant / Dept. in-charge of the affected area to raise the Fire alarm available at the nearest point. He will communicate to Fire Squad Post through the responsible person to inform*

location of fire to Fire crew". The siren is specifically referred to as a "fire siren". Thus, if a fire was not present, use of the siren during this SM vapour release scenario would not have been intuitive or expected.

LGPI was not instructed by any regulatory authority that a neighborhood siren was necessary. Had they been instructed to, they could have implemented this feature into their safety protocols. Regardless, the emergency protocol was already underway. Immediately, the Site Incident Controller was notified, the fire squad was assembled, and the onsite emergency plan was activated. In addition, if a siren on-site was meant to inform the public off-site in the event of an emergency, then regular testing at different distances and directions from LGPI would have been required and performed by the regulatory authorities to ensure that an adequate decibel level was recorded within a certain zone deemed as potentially vulnerable. Also, it would have needed to be audible inside closed residences for the entire area as the incident occurred during sleeping hours. As it is, there is no guarantee that a siren blown on-site could have been heard by all surrounding communities.

Therefore, I conclude that the observations contained in the Final Report are not supported by facts.

2.0 Adverse Impact on the Areas Affected in the Short-term and the Long-term

2.1 Long-term Impact on the Human Life, Flora, Fauna and Environment

Most styrene released to the environment is expected to volatilize (evaporate) into the atmosphere (air) due to its physical and chemical properties. Once this occurs, styrene does not remain or persist in the environment. This is primarily due to the fact that styrene is volatile (it evaporates easily) from soils and surface waters, it is rapidly destructed in air, and it is quickly degraded by microorganisms in soil and water (surface and groundwater). Styrene rapidly degrades in air and on surfaces due to reaction with hydroxyl radicals and ozone, though degradation due to solar radiation (light) is not likely. Styrene is quickly broken down in the air (usually within 1–2 days), evaporates from shallow soils and surface water, and any that remains in soil or water may be degraded by bacteria or other microorganisms (Agency for Toxic Substances and Disease Registry (ATSDR), 2010 and 2012).

Regarding estimated impact to humans and animals, a chemical's level of effect depends on the concentration and duration of the exposure. With the exception of infrequent situations, such as a liquid spill following a transportation incident, measured environmental concentrations of styrene in the air, water, and soil are too low to cause effects on humans, animals, or microorganisms. The relatively short half-life in the environment advocates for its non-persistence in the environment. Hence, there is almost zero possibility of remaining SM vapour in any media within the environment.

Specifically in the context of extent of damage to the environment, particularly air, water, and soil, LGPI has engaged and retained an expert to conduct sampling of these parameters. Having reviewed and analysed results of sampling for styrene in and around LGPI to ascertain the prevalent levels of styrene in air, water, and soil, I have arrived at the conclusion that sampling performed since the incident indicates that styrene levels have dropped to low or undetectable levels. My observations basis the sampling results are summarized below.

2.1.1 Impact on Air

As mentioned above, most styrene released to the environment is expected to enter the atmosphere due to its physical and chemical properties. However, styrene rapidly degrades in the atmosphere, and wind dispersion also occurs. As such, any concentrated vapor disperses rapidly such that any styrene that lingers for more than a couple of hours would be diluted into the atmosphere to a much lower, then undetectable concentration. Monitoring since the incident on 7 May 2020 indicates that off-site styrene concentrations in the air decreased rapidly and have remained low or non-detectable (far below the 0.2 ppm prescribed by the United States Environment Protection Agency (USEPA) as screening value in USEPA-IRIS (2009)). Because styrene degrades rapidly upon release and air concentrations remain low, additional sampling of the air is not recommended. However, for completeness, the testing of all parameters is ongoing even at present by experts retained by LGPI. Currently, LGPI is monitoring for styrene for 8 hours at a day at different locations.

In the sampling conducted by the experts retained by LGPI, I have noted that the same standards for screening value as the USEPA screening value, have been adopted. After using these standards, a thorough evaluation of the air samples, and the testing data collected to date

indicates that styrene levels are below the recommended screening levels/ standards. A review of the sampling results reveals that no styrene has been detected in air samples after 18 June 2020. Even before 18 June 2020, only negligible quantities of styrene were detected in air samples in merely two sampling locations, on four dates each, and a substantial majority of the results indicated that styrene levels in air were below the screening levels. Therefore, I conclude that the presence of styrene has reduced to levels below the recommended screening levels.

Further, per the Final Report prepared by the NGT Committee (p. 17, Final Report), air monitoring was undertaken by the Andhra Pradesh Pollution Control Board (APPCB) from 7 May to 10 May 2020. The results of styrene values (in ppm), recorded by APPCB at eight locations around LGPI, give rise to the following observations:

- a) While relatively high concentrations of styrene were recorded on 07 May 2020 (461 ppm) at Venkatapuram, and the Industry Main Gate (365 ppm), other locations showed results of levels of styrene ranging from 22.3 to 0.6 ppm.
- b) However, on 09 May 2020, the sampling results reveal that the maximum styrene values recorded by the APPCB were 18 ppm in the storage tank area, from the 8 locations sampled by the APPCB. This value further diminished to 2.5 ppm on 10 May 2020.

Further, CSIR-NEERI conducted monitoring during 13-18 May 2020, as indicated in the CSIR- NEERI Report (p. 152 of the Final Report). Even as per these monitoring results, the styrene detection was negligible or below detection levels in all sampling locations, except near the tank inside the LGPI facility (based on sampling conducted on 14 May 2020 at this location). Further, on 17 May 2020, (when samples were next collected from the storage tank) even at the storage tank in LGPI, the level of styrene detected diminished or reduced to below $<16.5 \mu\text{g}/\text{m}^3$, and all sampling locations indicated levels below this threshold. This indicates that after 17 May 2020, levels of styrene in the air at all sampling locations were below detection limits, and had been diluted significantly over a period of time.

Thus, basis a review of the limited information provided in the Final Report on the sampling conducted by the APPCB and the CSIR- NEERI, I note that there was a drastic depletion of styrene levels in the air samples (either due to diffusion or degradation), and therefore, long-term effects of the incident on air would not persist.

2.1.2 Impact on Water

Styrene is only slightly soluble in water (solubility in water at 20°C is 300 mg/L, i.e. 0.03% wt.vol. per the Plastic Europe (2018)). Therefore, it may not form micro plastics in bodies water. The acute hazard of spilled styrene will be limited for most aquatic species. Styrene may have toxic effects on aquatic invertebrates and algae, but exposure time will be limited due to rapid removal from water through volatilisation, therefore the risks are considered low. Styrene's high Henry's Law Constant (indicating the degree of solubility of the gas in a liquid, or the extent to which the gas will go into a liquid) indicates that the primary removal mechanism of styrene from water (and soil) is volatilisation to the air. This occurs fairly rapidly. Fu and Alexander (1992) found that when 2–10 mg of styrene was added to 1 L of lake water, 50% was lost to the atmosphere within 1–3 hours. Assuming that enough styrene could enter the water from a vapor to result in a concentration of 10 mg/L, half would re-volatilize (go back into the air and be dispersed) within 3 hours, which is fast. ATSDR (2010) reports that the volatilization half-life of styrene in moving water that is 1 meter deep (assuming a solubility of 300 mg/L) may be approximately 6 hours the estimated volatilization half-lives for styrene in turbulent lakes range from 6 hours in a lake 1 m deep to 2.5 days in a lake 10 m deep(USEPA, 1987). Volatilization from ponds and lakes may occur slower, with half-life estimates reported by ATSDR (2010) as ranging from 3 - 13 days (USEPA, 1984).

According to the Standard European Behaviour Classification as per the Bonn Agreement Counter Pollution Manual published in 2020 (called Operational, Technical and Scientific Questions Concerning Counter Pollution Activities (OTSOPA)(2020)), styrene would be classified as a “floater evaporator”. This implies that SM will float on the surface of water, rather than mix thoroughly into the water or sink to the bottom, then it evaporates into the atmosphere (OTSOPA, 2020). This type of behavior in water, which is safer for aquatic life than if the styrene were to mix thoroughly into the water column of sink to the bottom, is a function of styrene's density, vapor pressure, and solubility. Styrene is also readily biodegradable and does not bioconcentrate (i.e. accumulate over time) in aquatic or terrestrial species. EU Risk Assessments have concluded that styrene is not bio-accumulative (does not remain in humans, animals, or other organisms after exposure), meets the criteria for ready biodegradation, and thus

does not require classification for environmental effects (European Chemicals Agency (ECHA), 2002).

Basis the sampling of water conducted by experts retained by LGPI, which was made available to me and reviewed by me, I have noted that after 17 June 2020, the presence of styrene in water has been Below Limit Quantification (BLQ) and well below the screening value recommended by the WHO (0.02 mg/L). Further, prior to 17 June 2020, styrene presence was found only in a few locations on a few days, and this level was also insignificant and negligible. Even prior to 17 June 2020, the styrene levels were BLQ for a substantial number of sampling results. This indicates that there is no long-term impact of the SMV release on water. Because styrene is not expected to persist in water, continued sampling of water samples is not necessary. However, for completeness, LGPI continues to conduct an analysis of water samples for styrene.

Further, upon a review of the CSIR-NEERI Report (p. 158, Final Report) which has been annexed with the Final Report prepared by the NGT Committee, I have noted that a bio-assay test was conducted to determine acute toxicity of substances to fish in freshwater. A 60% survival was observed, with two out of five fishes dying at the end of 72 hours in a 100% concentration of water from the Meghadri Gedda Reservoir (Reservoir) sample. However, an analysis of samples from the Reservoir conducted by experts retained by LGPI reveal that the current levels of styrene in the Reservoir remain BLQ. Thus, in my view, conducting a bio-assay test is not necessary.

2.1.3 Monitoring of styrene in soil

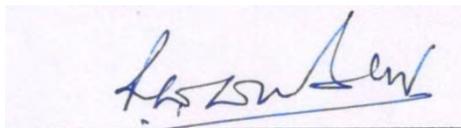
The experts retained by LGPI have also undertaken sampling of soil, which is ongoing. Basis a review of the sampling results for soil, I conclude that styrene in soil has been BLQ post 28 May 2020. Even prior to 28 May 2020, presence of styrene was detected sporadically, and a majority of sampling results indicated that styrene levels were BLQ. Further, the presence of styrene in soil samples continues to remain BLQ. Therefore, in the long-term, due to the nature of styrene, styrene will either evaporate from soil, or disintegrate, due to its physical and chemical properties.

E. Preliminary Conclusions

Following is a preliminary investigation of the information made available to me regarding the 7 May 2020 incident at LGPI, I have made the following preliminary conclusions, although I maintain the right to change my opinion if new information is made available.

1. Through quick and persistent efforts, LGPI employees took the important steps to immediately call for emergency response services (fire, police, ambulance), then worked in the hours that followed to prevent fire and explosion. They did so successfully, and this prevented further damage.
2. The Final Report recognizes through the CSIR-NEERI Report that styrene does not persist in the environment. However, the NGT Committee is concerned about long-term effects to humans and the environment. LGPI is conducting ongoing sampling and analysis of air, water and soil using an expert.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Rakesh Dubey', is written over a horizontal line.

Rakesh Dubey, M.Sc., M. Phil., Ph.D.
Consultant

Appendix A

1. ATSDR (2010):*Toxicological Profile for Styrene* [Report], Atlanta, Georgia: Agency for Toxic Substances and Disease Registry of the U.S. Department for Health and Human Services available at <https://www.atsdr.cdc.gov/toxprofiles/tp53.pdf>.
2. ATSDR (2012): Public Health Statement for Styrene, available at <https://www.atsdr.cdc.gov/ToxProfiles/tp53-c1-b.pdf>
3. ECHA (2002):*European Union Risk Assessment Report: Styrene (Part I- Environment)*, Luxembourg available at <https://echa.europa.eu/documents/10162/a05e9fc2-eaf7-448e-b9b2-d224d28173c0>.
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5. OTSOPA (2020) :*Counter Pollution Manual*. Working Group on Operational, Technical and Scientific Questions Concerning Counter Pollution Activities available at https://www.bonnagreement.org/site/assets/files/25745/2_8_hazardous_substances.pdf.
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7. USEPA (1984):*Health and environmental effects profile for styrene*, Cincinnati, OH: U. S. Environmental Protection Agency, Environmental Criteria and Assessment Office (EPA600X84325) available at <https://ntrl.ntis.gov/NTRL/dashboard/searchResults.xhtml?searchQuery=PB88182175&starDB=GRAHIST>

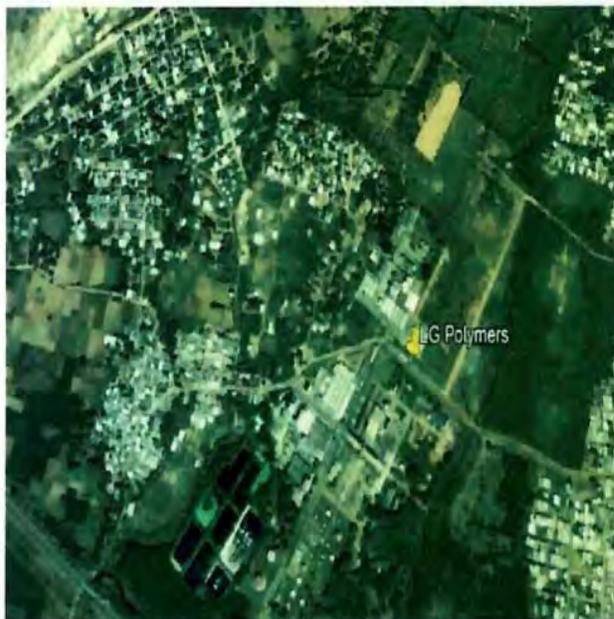
8. USEPA (1987): *Occurrence of Synthetic Organic Chemicals in Drinking Water, Food, and Air.*, Washington, D. C.: Office of Drinking Water, U. S. Environmental Protection Agency available at https://hero.epa.gov/hero/index.cfm/reference/download/reference_id/199476
9. USEPA- IRIS (2009) Chemical Assessment Summary for Styrene by the USEPA Integrated Risk Information System, available at https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0104_summary.pdf
10. Plastic Europe (2018): Safety Handling Guide, Plastic Europe, Association of Plastic Manufacturers (2018) available at https://www.plasticseurope.org/application/files/6115/4453/7896/Styrene_HSE_brochure_EN_20181211.pdf
11. Manufacture and Storage of Hazardous Chemicals Rules 1989 (and subsequent amendments) available at <https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/96640/114246/F-1994432325/IND96640.pdf>
12. World Health Organisation Screening Value for Styrene in Water available at https://www.who.int/water_sanitation_health/dwq/chemicals/styrenesum.pdf

ANNEXURE - G

Satellite images of the LGPI site from 2004 (top) and 2020 (bottom). Images obtained from Google Earth.



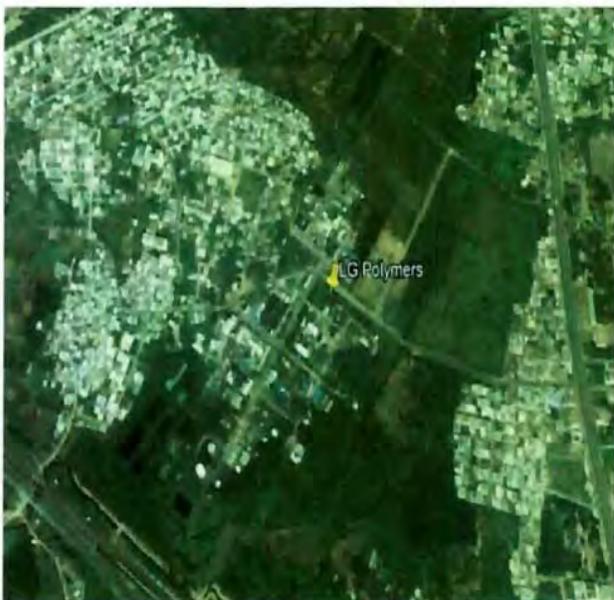
TRUE COPY



Google image dated 23.10.2004



Google image dated 12.10.2009



Google image dated 12.10.2015



Google image dated 06.11.2019

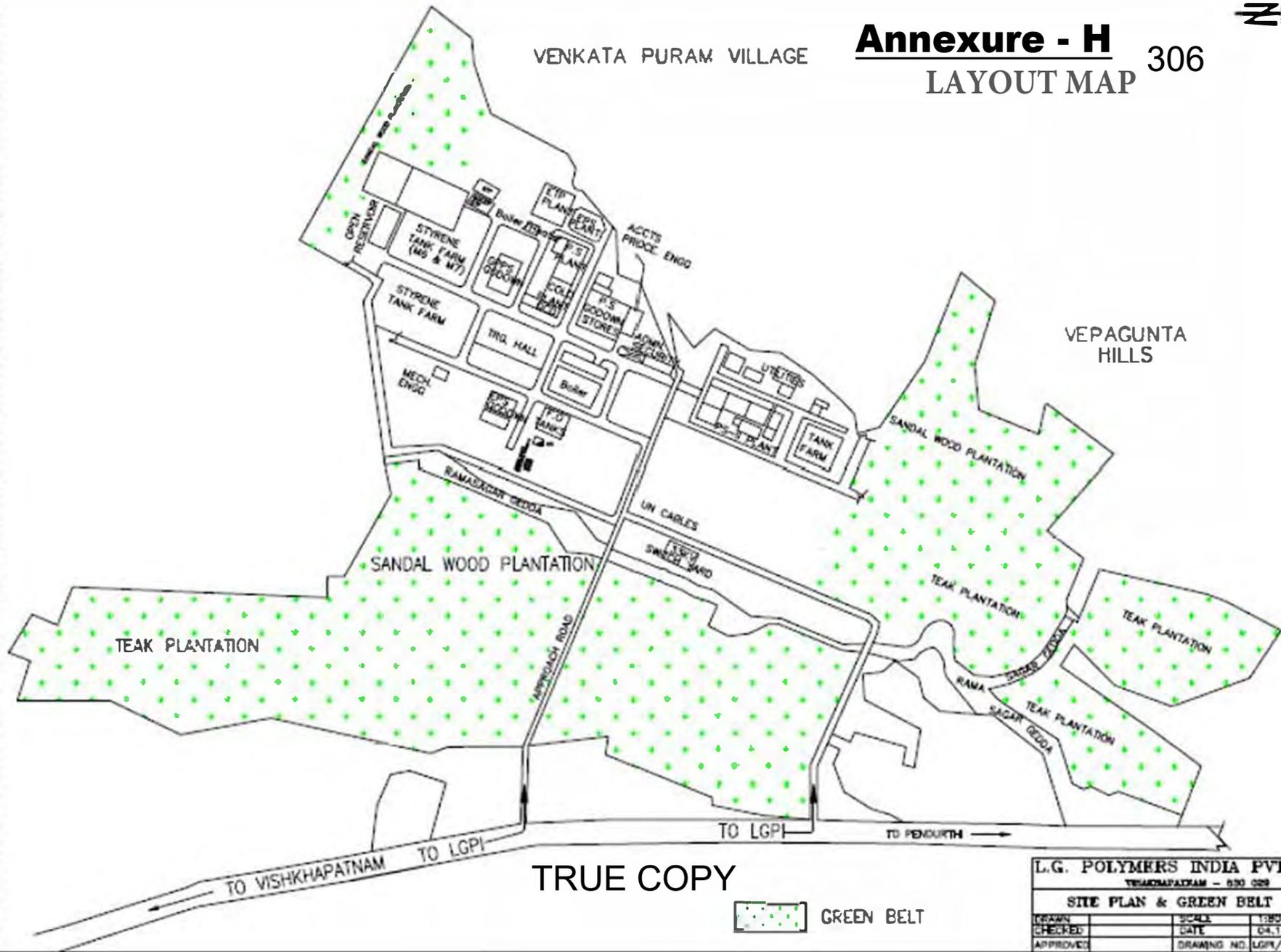
TRUE COPY



VENKATA PURAM VILLAGE

Annexure - H 306 LAYOUT MAP

SE.RLY. TOWARDS CALCUTTA



TRUE COPY

GREEN BELT

L.G. POLYMERS INDIA PVT. LTD.		
VENKATAPURAM - 520 029		
SITE PLAN & GREEN BELT		
DRAWN	SCALE	1:500
CHECKED	DATE	04.11.2018
APPROVED	DRAWING NO.	LGPI/ADMN/001

MAIN ENTRANCE

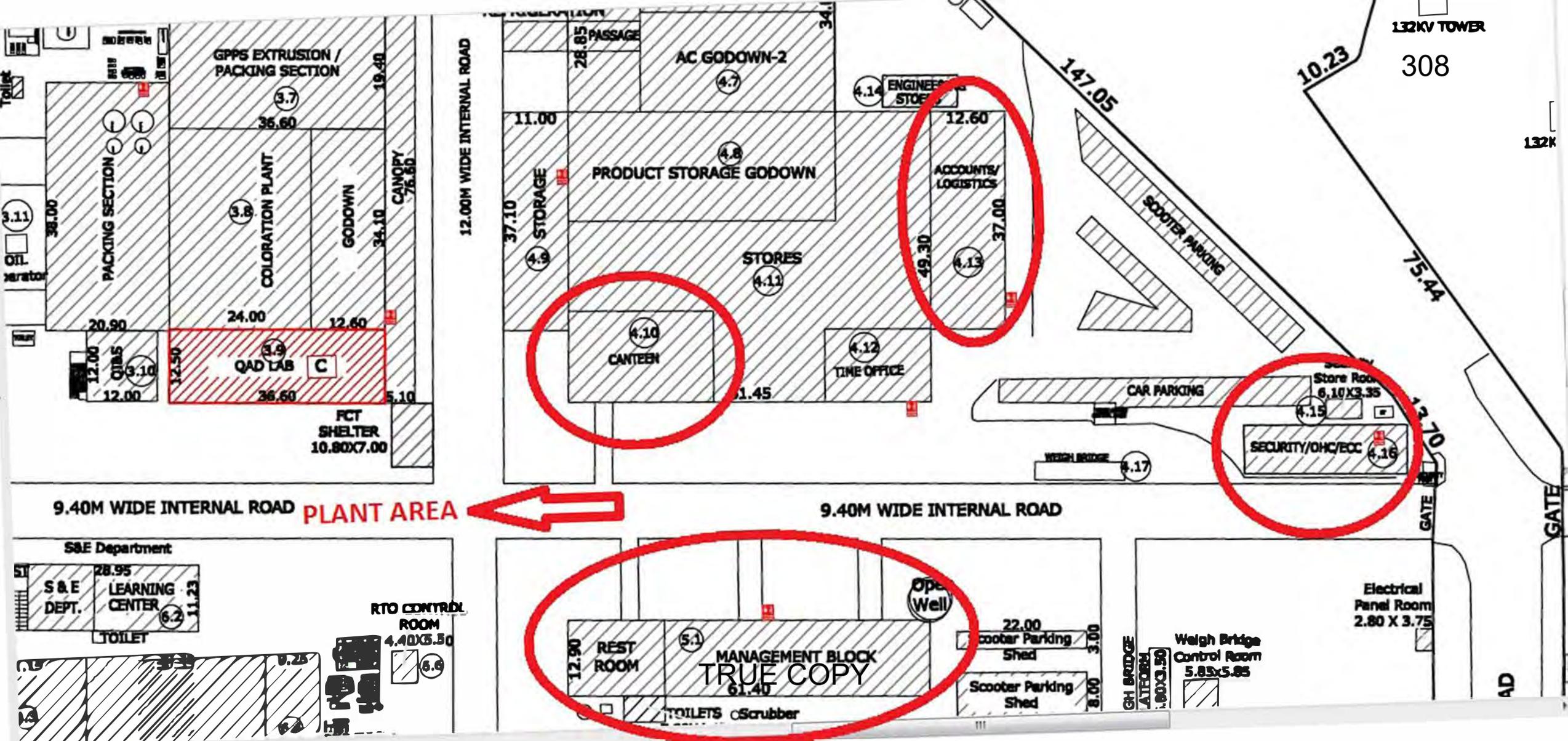
307



LG Chemical Polymers India

SECURITY

TRUE COPY



132KV TOWER
308

GPPS EXTRUSION /
PACKING SECTION

AC GODOWN-2

PRODUCT STORAGE GODOWN

ACCOUNTS/
LOGISTICS

QAD LAB C

CANTEN

TIME OFFICE

SECURITY/OHC/ECC

9.40M WIDE INTERNAL ROAD **PLANT AREA**

9.40M WIDE INTERNAL ROAD

S&E Department

S & E
DEPT.

LEARNING
CENTER

RTO CONTROL
ROOM

REST
ROOM

MANAGEMENT BLOCK
TRUE COPY

Scooter Parking
Shed

Weigh Bridge
Control Room

Electrical
Panel Room

Scooter Parking
Shed

WEIGH BRIDGE
CONTROL ROOM

AD

Sree Nookambica temple
శ్రీనూకుచికా
ఆలయం
Temporarily closed

MAIN GATE



Venkatapuram Rd

వెంకటాపురం రోడ్డు

Lg Polymers

వెంకటాపురం రోడ్డు

ADMIN BLOCK

FINANCE &
ACCOUNTS
BLOCK

CANTEEN

LGPI Vizag

MANAGEMENT BLOCK

PLANT AREA

TRUE COPY
Google

ANNEXURE - I

No. 40-3/2020-DM-I(A)
Government of India
Ministry of Home Affairs

North Block, New Delhi-110001

Dated 24th March, 2020

ORDER

Whereas, the National Disaster Management Authority (NDMA), is satisfied that the country is threatened with the spread of COVID-19 epidemic, which has already been declared as a pandemic by the World Health Organisation, and has considered it necessary to take effective measures to prevent its spread across the country and that there is a need for consistency in the application and implementation of various measures across the country while ensuring maintenance of essential services and supplies, including health infrastructure;

Whereas in exercise of the powers under section 6(2)(i) of the Disaster Management Act, 2005, the National Disaster Management Authority (NDMA), has issued an Order no. 1-29/2020-PP (Pt.II) dated 24.03.2020 (Copy enclosed) directing the Ministries/ Departments of Government of India, State/Union Territory Governments and State/ Union Territory Authorities to take effective measures so as to prevent the spread of COVID-19 in the country;

Whereas under directions of the aforesaid Order of NDMA, and in exercise of the powers, conferred under Section 10(2)(I) of the Disaster Management Act, the undersigned, in his capacity as Chairperson, National Executive Committee, hereby issues guidelines, as per the Annexure, to Ministries/ Departments of Government of India, State/Union Territory Governments and State/ Union Territory Authorities with the directions for their strict implementation. This Order shall remain in force, in all parts of the country for a period of 21 days with effect from 25.03.2020.


24/3/2020
Home Secretary

To

1. **The Secretaries of Ministries/ Departments of Government of India**
2. **The Chief Secretaries/Administrators of States/Union Territories**
(As per list attached)

Copy to:

- i. All members of the National Executive Committee.
- ii. Member Secretary, National Disaster Management Authority.

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Annexure to Ministry of Home Affairs Order No .40-3/2020-D dated ()24.03.2020

Guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/Union Territory Governments and State/ Union Territory Authorities for containment of COVID-19 Epidemic in the Country.

1. Offices of the Government of India, its Autonomous/ Subordinate Offices and Public Corporations shall remain closed.

Exceptions:

Defence, central armed police forces, treasury, public utilities (including petroleum, CNG, LPG, PNG), disaster management, power generation and transmission units, post offices, National Informatics Centre, Early Warning Agencies

2. Offices of the State/ Union Territory Governments, their Autonomous Bodies, Corporations, etc. shall remain closed.

Exceptions:

- a. Police, home guards, civil defence, fire and emergency services, disaster management, and prisons.
- b. District administration and Treasury
- c. Electricity, water, sanitation
- d. Municipal bodies—Only staff required for essential services like sanitation, personnel related to water supply etc

The above offices (Sl. No 1 & 2) should work with minimum number of employees. All other offices may continue to work-from-home only.

3. Hospitals and all related medical establishments, including their manufacturing and distribution units, both in public and private sector, such as dispensaries, chemist and medical equipment shops, laboratories, clinics, nursing homes, ambulance etc. will continue to remain functional. The transportation for all medical personnel, nurses, para-medical staff, other hospital support services be permitted.

4. Commercial and private establishments shall be closed down.

Exceptions:

- a. Shops, including ration shops (under PDS), dealing with food, groceries, fruits and vegetables, dairy and milk booths, meat and fish, animal fodder. However, district authorities may encourage and facilitate home delivery to minimize the movement of individuals outside their homes.
- b. Banks, insurance offices, and ATMs.
- c. Print and electronic media
- d. Telecommunications, internet services, broadcasting and cable services. IT and IT enabled Services only (for essential services) and as far as possible to work from home.
- e. Delivery of all essential goods including food, pharmaceuticals, medical equipment through E-commerce.

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- f. Petrol pumps, LPG, Petroleum and gas retail and storage outlets.
- g. Power generation, transmission and distribution units and services.
- h. Capital and debt market services as notified by the Securities and Exchange Board of India
- i. Cold storage and warehousing services.
- j. Private security services

All other establishments may work-from-home only.

5. Industrial Establishments will remain closed.

Exceptions:

- a. Manufacturing units of essential commodities.
- b. Production units, which require continuous process, after obtaining required permission from the State Government

6. All transport services – air, rail, roadways – will remain suspended.

Exceptions:

- a. Transportation for essential goods only.
- b. Fire, law and order and emergency services.

7. Hospitality Services to remain suspended

Exceptions:

- a. Hotels, homestays, lodges and motels, which are accommodating tourists and persons stranded due to lockdown, medical and emergency staff, air and sea crew.
- b. Establishments used/ earmarked for quarantine facilities.

8. All educational, training, research, coaching institutions etc. shall remain closed.

9. All places of worship shall be closed for public. No religious congregations will be permitted, without any exception.

10. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions / gatherings shall be barred.

11. In case of funerals, congregation of not more than twenty persons will be permitted.

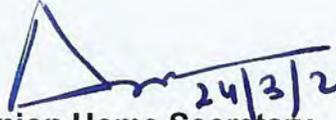
12. All persons who have arrived into India after 15.02.2020, and all such persons who have been directed by health care personnel to remain under strict home/ institutional quarantine for a period as decided by local Health Authorities, failing which they will be liable to legal action under Sec. 188 of the IPC.

13. Wherever exceptions to above containment measures have been allowed, the organisations/employers must ensure necessary precautions against COVID-19

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virus, as well as social distance measures, as advised by the Health Department from time to time.

14. In order to implement these containment measures, the District Magistrate will deploy Executive Magistrates as Incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions. All other line department officials in the specified area will work under the directions of such incident commander. The Incident Commander will issue passes for enabling essential movements as explained.
15. All enforcing authorities to note that these strict restrictions fundamentally relate to movement of people, but not to that of essential goods.
16. The Incident Commanders will in particular ensure that all efforts for mobilisation of resources, workers and material for augmentation and expansion of hospital infrastructure shall continue without any hindrance.
17. Any person violating these containment measures will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides legal action under Sec. 188 of the IPC (as per Appendix).
18. The above containment measures will remain in force, in all parts of the country, for a period of 21 days with effect from 25.03.2020.


24/3/2020
Union Home Secretary

1. Section 51 to 60 of the Disaster Management Act, 2005

OFFENCES AND PENALTIES

51. Punishment for obstruction, etc.—Whoever, without reasonable cause —

(a) obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or

(b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

52. Punishment for false claim.—Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

53. Punishment for misappropriation of money or materials, etc.—Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

54. Punishment for false warning.—Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.

55. Offences by Departments of the Government.—(1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the

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offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act.—Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

57. Penalty for contravention of any order regarding requisitioning.—If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

58. Offence by companies.—(1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly: Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence. (2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purpose of this section— (a) “company” means any body corporate and includes a firm or other association of individuals; and (b) “director”, in relation to a firm, means a partner in the firm.

59. Previous sanction for prosecution.—No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

60. Cognizance of offences.—No court shall take cognizance of an offence under this Act except on a complaint made by— (a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to

the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised as aforesaid.

2. Section 188 in The Indian Penal Code

188. Disobedience to order duly promulgated by public servant.—Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury, to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both; and if such disobedience causes or trends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

Explanation.—It is not necessary that the offender should intend to produce harm, or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces, or is likely to produce, harm.

Illustration

An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious procession shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.

**GOVERNMENT OF ANDHRA PRADESH
ABSTRACT**

HM & FW Dept. - Containment, Control and Prevention of spread of COVID - 19 - Lock down till 31st March, 2020 in the State of Andhra Pradesh - Notification under Epidemic Disease Act, 1897 - Issued

HEALTH, MEDICAL & FAMILY WELFARE (B2) DEPARTMENT

G.O.Rt.No.209

Dt: 22.03.2020

Read the following :

1. G.O.Rt.No.189, HM & FW (B2) Dept. Dt:13.03.2020.
2. G.O.Rt.No.202, HM & FW (B2) Dept. Dt:18.03.2020.
3. G.O.Rt.No.204, HM & FW (B2) Dept. Dt:19.03.2020.

ORDER :

The following notification shall be published in the extra ordinary issue of A.P. Gazette.

NOTIFICATION

In exercise of the powers contained under Sec 234 of Epidemic Disease Act, 1897, the Governor of Andhra Pradesh hereby issues following measures for containment of COVID-19.

1. WHO has declared COVID19 a global pandemic. Since the onset of preventive measures 11,670 foreign returnees to the state have been placed under medical surveillance. Of these 10,091 are placed under home isolation, 24 are hospitalized and 1,555 have completed home isolation of 28 days. So far 6 cases have tested positive, one each in districts of Nellore, East Godavari, Krishna, Prakasam and 2 in Visakhapatnam.

2. While, vide GO Rt.No. 202 and GO Rt. No. 204 multiple restriction and social distancing measures have been communicated, it is imperative that in proactive manner a state-wide lockdown is observed to prevent onset of community transmission of the Corona-virus. Therefore, in continuation to the measures enunciated in GOs cited above the following measures to ensure that such a lockdown will come into force with immediate effect across the state of Andhra Pradesh up to 31st March 2020:

- i. No public transport including inter-state transport services shall be permitted. The exception will include transport of all kinds to and fro from hospitals, airports & railway stations etc.
- ii. All non-essential commercial shops shall be shut down.
- iii. All non-essential offices, factories, workshops, go-downs etc. if operated should do so with skeletal staff.
- iv. All foreign returnees are directed to remain under strict home quarantine for a period of 14 days or as advocated by local Health Authorities (Collectors to monitor and update on online portal).
- v. Police will ensure Beat Vigilance System regarding all foreign returnees across the state. For this, police should take help of MahilaSamrakshna Karyadarshi (mahila police).
- vi. General public are required to stay at home and come out only for basic services while strictly following social distancing (2m distance between individuals) guidelines issued earlier.
- vii. Any congregation of more than 10 persons is prohibited in public places.
- viii. A 100 bedded Quarantine / Isolation facility should be established at each assembly constituency level.

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- ix. Each district headquarters shall have 200-300 bed Tertiary Care Treatment facility dedicated for COVID-19 treatment in coordination with private sector.
- x. Collectors will maintain strict vigilance on essential commodities and medicines. Clear advertisements regarding rates & stocking in this regard shall be communicated and any violation by individuals/establishments shall be dealt strictly under relevant provisions of the IPC. A toll free number should be set up by District Collectors for complaints in this regard
- xi. Farmers and individuals involved in production of food grains/essential commodities will be allowed to take up their activities by maintaining social distancing norms.

3. However, the following establishments providing essential services shall be excluded from the above restrictions:

- a. Offices charged with law and order and magisterial duties
 - i. Collector
 - ii. Joint Collector
 - iii. Sub Collector / RDO
 - iii. MRO
- b. Police, Health, Urban Local Bodies, Fire, Electricity, Water and Municipal Services, Bank/ATM, Print, Electronic and Social Media.
- c. Food, Groceries, Milk, Bread, Fruit, Vegetable, Meat, Fish and their transportation related activities and warehousing.
- d. Hospitals, Pharmacies, Optical stores, Pharmaceuticals manufacturing and their transportation related activities
- e. Telecom & Internet Services including IT&ITeS, Postal services
- f. Supply chain and related transportation of essential goods
- g. e-Commerce (delivery) of all essential goods including food, pharmaceutical and medical equipment
- h. Take away/ home delivery restaurants and hotels.
- i. Petrol pumps, LPG gas, Oil agencies, their go-downs and transportation related activities.
- j. Production and Manufacturing Units which require continuous process may continue to function, after obtaining required permission from the Collector.
- k. Manufacturing units engaged in production of essential commodities
- l. Private establishments that support the above services or are linked to the efforts for containment of COVID-19 will remain open.

4. District Collector shall be the competent authority to decide if any produce / service is essential in nature or not.

5. District Administration should appeal to general public to ensure observance of social distancing norms in public places and appropriate sanitary / distancing measures in private sphere. This appeal should lay special focus on the elderly (above 60 yrs) and those with flu like symptoms, medical complications like asthma, BP, cardio vascular complications etc.

6. While the lockdown as enunciated above should be initiated with immediate effect, the district administration should continue to focus on the containment strategy being practised thus far involving tracking the dissemination of a disease within a community through tracking of foreign returnees / suspect cases, and then using isolation and individual quarantines to keep people who have been infected by or exposed to the disease from spreading it.

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7. District Collectors, Joint Collectors, Police Commissioners, SPs, Municipal Commissioners, Sub Collectors, RDOs, DM&HOs, Tahsildars and MPDOs are hereby authorized to take all necessary actions for enforcement and implementation of the aforesaid measures. Local police shall render necessary assistance as and when requisitioned by the aforementioned officers.

8. Any person found violating the containment measures; shall deemed to have committed an offence punishable under section 188 of Indian Penal Code (45 of 1860). Strict compliance with aforementioned measures is warranted.

(BY ORDER AND IN THE NAME OF GOVERNOR OF ANDHRA PRADESH)

**NILAM SAWHNEY
CHIEF SECRETARY TO GOVERNMENT**

To

The Commissioner, Printing, Stationery & Purchase, Vijayawada (with a request to publish the notification in extraordinary Gazette)

All the District Collectors in the State.

All the Municipal Commissioners in the State.

The Principal Secretary, T.R. & B., Secretariat.

} with a request

The Spl, Chief Secy., Revenue (CT&Excise) Dept.

} to issue further

The Principal Secretary, Home Dept.

} guidelines to

The Principal Secretary, Revenue Dept.

} operationalize

The Principal Secretary, L.E.T. & F. Dept., Secretariat

} the instructions

The Principal Secretary, PR&RD Dept.

} issued in the G.O.

The Principal Secretary, I&I Dept.

}

The Principal Secretary, MA&UD Dept.

}

The Director General of Police, Mangalagiri.

}

The Commissioner, I&PR Dept.

}

All District Superintendents of Police in the State of A.P.

The Commissioner of Police, Visakhapatnam, Vijayawada.

The Commissioner of Public Transport Department.

All HODs of H.M. & F.W. Dept.

Copy to:

OSD to Dy.CM (HFW & ME)

PS to CS/ PS to Addl.C.S. to CM

PS to Principal Secretary (Poll), GAD PS

to Commissioner, I & P.R.

//FORWARDED:: BY ORDER//

SECTION OFFICER

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**GOVERNMENT OF ANDHRA PRADESH
ABSTRACT**

HM & FW Department – Containment, Control and Prevention of spread of COVID-19 – **“Lockdown” till 14th April, 2020** in the State of Andhra Pradesh under Disaster Management Act, 2005 –Orders- Issued.

HEALTH, MEDICAL & FAMILY (B2) DEPARTMENT

G.O.Rt.No.216,

Dated: 24.03.2020

Read the following:

1. G.O.Rt.No.189, HM & FW (B2) Dept. Dt: 13.03.2020.
2. G.O.Rt.No.202, HM & FW (B2) Dept. Dt: 18.03.2020.
3. G.O.Rt.No.204, HM & FW (B2) Dept. Dt: 19.03.2020.
4. G.O.Rt.No.209, HM & FW (B2) Dept. Dt: 22.03.2020.
5. G.O.Rt.No.210, HM & FW (B2) Dept. Dt: 23.03.2020.
6. G.O.Rt.No.211, HM & FW (B2) Dept. Dt: 23.03.2020.
7. National Disaster Management Authority Order No.1-29/2020-PP (P1. II), dt.24.3.2020.
8. MHA, GoI Order No.40-3/2020-DM-I(A), Dt. 24.3.2020.

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ORDER:

In the reference 7th read above, the National Disaster Management Authority (NDMA) has issued orders directing the Ministries/ Departments of Government of India and the State/Union Territory Governments and State/Union Territory Authorities to take effective measures to prevent the spread of COVID-19 in the country.

2. In compliance of the Orders 7th read above, in the reference 8th read above, under Section 10(2)(1) of the Disaster Management Act, the Ministry of Home Affairs, Government of India, New Delhi have issued Orders directing the Ministries/ Departments of Government of India and the State/Union Territory Governments and State/Union Territory Authorities to take effective measures to prevent the spread of COVID-19 in the Country and the Order shall remain in force, in all parts of the Country, for a period of 21 days w.e.f. 25.03.2020.

3. Therefore, all the District Collectors, Joint Collectors, Police Commissioners, SPs, DM&HOs, Municipal Commissioners, Sub Collectors, RDOs, MROs and MPDOs are hereby instructed to strictly implement the guidelines as per Annexure to the Order mentioned vide reference 8th read above. This Order shall remain in force in all parts of the State for a period of 21 days with effect from 25.03.2020. For implementing the containment measures, the District Magistrate will deploy Executive Magistrates as Incident Commanders as specified in the above guidelines.

4. The Order mentioned vide reference 8th read above shall be implemented along with various orders issued earlier by the State Government for **“Lockdown”** in the State for containing the spread of COVID-19.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

**NILAM SAWHNEY,
CHIEF SECRETARY TO GOVERNMENT**

To
All the District Collectors in the State.

(p.t.o)

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-2-

All the Special Chief Secretaries/Prl. Secretaries/Secretaries.
The D.G.P., Mangalagiri.
The Commissioner of Police, Visakhapatnam, Vijayawada.
All District Superintendents of Police.
All Municipal Commissioners in the State.
All HODs of H.M. & F.W. Dept.
All the DM& HOs in the State.

Copy to:

PS to CS/ PS to Addl.C.S. to CM
OSD to Dy.CM (HFW & ME).
PS to Spl.C.S. to Govt., HM&FW Department.
PS to Principal Secretary (Poll), GAD.
PS to Commissioner, I & P.R. Department.
SC/SF.

//FORWARDED: BY ORDER//**SECTION OFFICER****(Contd...Annexure)**

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Annexure to G.O.Rt.No.216, HM&FW(B2)Deptt., Dt.24.03.2020

Guidelines on the measures to be taken for containment of COVID-19 Epidemic in the State:

1. Offices of the Government of India, its Autonomous/ Subordinate Offices and Public Corporations shall remain closed.

Exceptions:

Defence, central armed police forces, treasury, public utilities (including petroleum, CNG, LPG, PNG), disaster management, power generation and transmission units, post offices, National Informatics Centre, Early Warning Agencies.

2. Offices of the State/ Union Territory Governments, their Autonomous Bodies, Corporations, etc. shall remain closed.

Exceptions:

- a.** Police, home guards, civil defence, fire and emergency services, disaster management, and prisons.
- b.** District administration and Treasury
- c.** Electricity, water, sanitation.
- d.** Municipal bodies—Only staff required for essential services like sanitation, personnel related to water supply etc

The above offices (Sl. No 1&2) should work with minimum number of employees. All other offices may continue to work-from-home only.

3. Hospitals and all related medical establishments, including their manufacturing and distribution units, both in Public and Private sector, such as dispensaries, chemist and medical equipment shops, laboratories, clinics, nursing homes, ambulance etc. will continue to remain functional. The transportation for all medical personnel, nurses, para-medical staff, other hospital support services be permitted.

4. Commercial and private establishments shall be closed down.

Exceptions:

- a.** Shops, including ration shops (under PDS), dealing with food, groceries, fruits and vegetables, dairy and milk booths, meat and fish, animal fodder. However, district authorities may encourage and facilitate home delivery to minimize the movement of individuals outside their homes.
- b.** Banks, insurance offices, and ATMs.
- c.** Print and electronic media
- d.** Telecommunications, internet services, broadcasting and cable services. IT and IT enabled Services only (for essential services) and as far as possible to work from home.
- e.** Delivery of all essential goods including food, pharmaceuticals, medical equipment through E-commerce.
- f.** Petrol pumps, LPG. Petroleum and gas retail and storage outlets.

(Cont...p.2)

-2-

- g.** Power generation, transmission and distribution units and services
- h.** Capital and debt market services as notified by the Securities and Exchange Board of India.
- i.** Cold storage and warehousing services.
- j.** Private security services

All other establishments may work-from-home only.

5. Industrial Establishments will remain closed.

Exceptions:

- a.** Manufacturing units of essential commodities.
 - b.** Production units, which require continuous process, after obtaining required permission from the State Government
- 6.** All transport services — air, rail, roadways — will remain suspended.

Exceptions:

- a.** Transportation for essential goods only.
- b.** Fire, law and order and emergency services.

7. Hospitality Services to remain suspended.

Exceptions:

- a.** Hotels, homestays, lodges and motels. which are accommodating bursts and persons stranded due to lockdown, medical and emergency staff air and sea crew.
- b.** Establishments used/ earmarked for quarantine facilities.

8. All educational, training, research, coaching institutions etc shall remain closed.

9. All places of worship shall be closed for public. No religious congregations will be permitted, without any exception.

10. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions/ gatherings shall be barred.

11. In case of funerals, congregation of not more than twenty persons will be permitted.

12. All persons who have arrived into India after 15.02.2020, and all such persons who have been directed by health care personnel to remain under strict home/ institutional quarantine for a period as decided by local Health Authorities, failing which they will be liable to legal action under Sec 188 of the IPC.

13. Wherever exceptions to above Containment measures have been allowed, the originations/employees must ensure necessary. Precautions against COVID-19 Virus, as well as social distance measures, as advised by the Health Department from time to time.

(Cont...p.3)

-3-

14. In order to implement these containment measures, the District Magistrate will deploy Executive Magistrate as incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions. All other line Department officials in the specified area will work under the directions of such incident commander. The Incident commander will issue passes for enabling essential movements as explained

15. All Enforcing Authorities to note that these strict restrictions fundamentally relate to movement of people, but not to that of essential goods.

16. The Incident Commanders will in particular ensure that all efforts for mobilisations of resources, workers and material for augmentation and expansion of Hospital infrastructure shall continue without any hindrance.

17. Any person violating these containment measures will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides Legal action under Sec. 188 of the IPC (as per Appendix).

18. The above Containment measures will remain in force, in all parts of the Country, for a period of 21 days with effect from 25.03.2020.

APPENDIX

(I) OFFENCES AND PENALTIES OF THE DISASTER MANAGEMENT ACT, 2005

51. Punishment for obstruction, etc- Whoever, without reasonable cause-

(a) Obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or

(b) Refuses to comply with any direction given by or on behalf of the Central Government or State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act, shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

52. Punishment for false claim-

Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may be extend to two years, and also with fine.

(Cont...p.4)

53. Punishment for misappropriation of money or materials, etc-

Whoever, being entrusted with any money or material or otherwise being, in custody of or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

54. Punishment for false warning-

Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine

55. Offences by Departments of the Government-

(1) Where an offence under this Act, has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act, has been committed by a Department of Government and it is proved that the offence has been committed with the consent or connivance of or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act – Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

57. Penalty for contravention of any order regarding requisitioning – If any person contravenes any order made under Section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

58. Offence by Companies – (1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of and was responsible, to the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly. Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he provides that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence, (2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation – For the purpose of this section -(a) “company” means anybody corporate and includes a firm or other association of individuals; and (b) “director”, in relation to a firm, means a partner in the firm.

59. Previous sanction for prosecution -No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

60. Cognizance of offences – No Court shall take cognizance of an offence under this Act, except on a complaint made by –(a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised as aforesaid.

II. Section 188 in The Indian Penal Code

188. Disobedience to order duly promulgated by public servant –Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both and if such disobedience causes or trends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

Explanation –It is not necessary that the offender should intend to produce harm or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces or is likely to produce harm.

Illustration-An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.

**NILAM SAWHNEY,
CHIEF SECRETARY TO GOVERNMENT**


LG Polymers India Pvt. Ltd.

Regd. Office & Works : R.R. Venkatapuram, Visakhapatnam - 530 029, India

CORPORATE IDENTITY NUMBER (CIN) : U25203AP1996PTC025917

 ISO 9001:2015 &
ISO 14001:2015

 BUREAU VERITAS
Certification


0008

Visakhapatnam	91-891-2520455 ~ 458	Fax : 91-891-2520528
Mumbai	91-22-61085300 ~ 332	Fax : 91 - 22-61085344
Gurgaon	91-0124-4692700 ~11,	Fax : 91-0124-4692701
Kolkatta	91-33-25797977 & 78	
Chennai	91-44-26650201	Fax : 91-44-43870203
Vjayawada	91-9849170565	
Pune	91-020-66487600	

*Submitted on
24/03/2020*

Ref: LGPI/03/2020

Date: 23.03.2020

**The District Collector & Magistrate
Visakhapatnam**

Respected Sir,

Sub: Request permission for Operating our Manufacturing Industry - Reg
Ref: Government of AP G.O.Rt.No. dt. 22.03.2020

We, LG Polymers India Pvt. Limited, situated in RR Venkatapuram (near Gopalapatnam), Visakhapatnam is a South Korean MNC Company. We manufacture Polystyrene & expandable polystyrene using the main raw material Styrene Monomer (SM) which is imported from south East Asian countries. We employ about 500 employees both permanent & contract workers.

Ours is a petrochemical plant classified under MAH category, continuous polymerization of styrene monomer, operating on 24 X 7 basis under A, B, C & General shifts.

Imported styrene monomer (thru' Visakhapatnam port) is stored in leased transit terminal at M/s. East India Petroleum Ltd.(EIPL) Visakhapatnam. We regularly transfer SM to our plant thru' road tankers and currently we are having around 7000 MT of SM at EIPL which need to be shifted to plant location considering the hazardous nature of the chemical (stagnation of SM leads to auto-polymerization / explosion).

Hence we request your good offices to permit us to continue plant operations in view of the nature of the industry.

Sir, we humbly request you to give permission to our Industry to enable us to run the operations with skeletal staff (about 70% reduction) considering the nature of polymer industry.

However, we assure you that we have taken all necessary precautions to maintain social distance, disinfecting our premises following the guidelines issued by the govt. We established the practice of monitoring the health condition of all our employees at the entrance of the factory gate.

We request your kind permission.

Thanking you,

Your faithfully,
For LG Polymers India Pvt. Limited

P.P.C. Mohan Rao
P.P.C. Mohan Rao
Director (Operations)

Head Office :

601 & 602, 6th Floor, A-Wing, Delphi Orchard Avenue, Hiranandani Gardens, Powai, Mumbai-400076

 Visit us at www.lgpi.co.in or www.lgchem.com or www.polymerwide.com
TRUE COPY



LG Polymers India Pvt. Ltd.

Regd. Office & Works : R.R. Venkatapuram, Visakhapatnam - 530 029, India

CORPORATE IDENTITY NUMBER (CIN) : U25203AP1996PTC025917

ISO 9001:2015 A
ISO 14001:2015
BUREAU VERITAS
Certification



ANNEXURE - K SolutionPartner

Visakhapatnam	91-891-2520455 ~ 458	Fax : 91-891-2520528
Mumbai	91-22-61085300 ~ 332	Fax : 91 - 22-61085344
Gurgaon	91-0124-4692700 ~ 11	Fax : 91-0124-4692701
Kolkata	91-33-25797977 & 78	
Chennai	91-44-26650201	Fax : 91-44-43870203
Vijayawada	91-9849170565	
Pune	91-020-66487600	

Ref: LGPI/03/2020
Date: 28.03.2020

The Joint Collector
Collector Office
Visakhapatnam

Respected Sir,

Sub: Request Emergency Duty Identity Cards for the skeletal staff - Reg

Ref: 1) Government of AP G.O.Rt.No. dt. 22.03.2020
2) LGPI letter to District Collector dt.23.03.2020

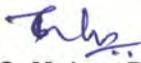
We, LG Polymers India Pvt. Limited, situated in RR Venkatapuram, Visakhapatnam is a South Korean MNC Company. We manufacture Polystyrene & expandable polystyrene using the main raw material Styrene Monomer (SM) which is imported from South East Asian countries. Ours is a petrochemical plant classified under MAH category, continuous polymerization of SM. We employ about 500 employees both permanent & contract workers.

Based on District Collector orders dt. 23rd March,20 we have stopped / shutdown our continuous process plants on 23rd / 24th March. However we have to closely monitor the raw materials SM, Pentane (hazardous and classified as Class A & B petroleum products) stored in the tank farm. Hence we have deployed skeletal manpower 60 persons to monitor the raw material inventories round the clock as the above raw materials are to be maintained in refrigerated condition (as per MSDS - Material Safety Data Sheet).

Hence, we humbly request your good offices to **grant Emergency Duty permission passes** to deploy 60 skeletal staff for monitoring the raw materials. We humbly request you to consider our request in view of the raw material safety.

Thanking you,

Your faithfully,
For LG Polymers India Pvt. Limited


P.P.C. Mohan Rao
Director (Operations)

CC TO: GM - Industries

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**LG Chem****ANNEXURE-L****LG Polymers India Private Limited**RR Venkatapuram Post,
Visakhapatnam - 530 029, INDIAISO 9001:2015 &
ISO 14001:2015
BUREAU VERITAS
Certification**329** PRO / FTS / 8.4.1 / 002

Phone : 0891 - 2520455-58

Fax : 0891 - 2520338/528

Website : www.lgpi.co.in

PURCHASE ORDER**IN001302**Company K.K.POONJA & SONS
SRD PHASE G I D C VAPI
PLOT NO 1422 & 1415 - 369195
Mobile : 7498037619
GSTIN:24AAAFAK3847R1ZWPO Number : **4501384962** Dated : **16.04.2020**
GSTIN : 37AAACL8528P1ZU
PAN : AAACL8528P
GSTIN State Name/Code: LG Polymers India Pvt Ltd/AP01
Your Reference : EMAIL Dated : 15.04.2020
Our Reference : KPK/BPB/SM Page 1 of 1

We are pleased to place an order on you for the supply of following materials/equipments as per the terms and conditions mentioned herein and overleaf.

Item	Description	Quantity	UOM	Rate	Amount
1	/PATETC0024 PARA TERTIARY BUTYL CATECHOL (PTBC) HSN/SAC Code : SPECIFICATIONS Purity : Min. 98% Color : Light Brown Appearance : Yellowish brown color clear liquid/Crystalline Solid/Viscous liquid	50.000	KG	650.00	32,500.00
TOTAL : Rupees thirty-two thousand five hundred only.					32,500.00

Special Instructions

PL SEND US TEST REPORT, ROHS & SHELF LIFE CERTIFICATE ALONG WITH THE MATERIAL

Vendor shall furnish Bank Account details such as Bank Account Number, IFS Code, Bank Name and Address on invoice.

GST 18%

You are required to Issue tax invoices in accordance with the provisions of GST Law, to avoid any complications with regards to the recognition of the time and place of supply of such goods or services.

Input tax credit would be allowed to LG Polymers India Private Limited (LGPI) only if you upload correct transaction wise details of sales made to LGPI. Any error would lead to LGPI not getting the credit of GST charged. Accordingly, it is important that all transactions of sales made to LGPI are correctly uploaded on the GSTN portal within the stipulated time.

LGPI reserves the right to deduct/ recover any loss of input tax credit due to any noncompliance, delays, negligence, error committed by you.

Please return scan copy of this order duly signed and stamped as token of your acceptance immediately.

PLEASE SEND THE MATERIAL THROUGH RAJ KAMAL TRANSPORT

TERMS:

PRICE BASIS : EXW VAPI
P&F CHARGES : INCLUSIVE
GST Tax : As applicable on documentary evidence
PAYMENT TERMS : Within 30 days from the date of InvoiceMODE OF DESP : By Road
DESPATCH DATE : **19.04.2020**
FRIEGHT : EXTRA AT ACTUALS
INSURANCE : By us, Details overleaf

Nomenclature of material in the invoice and all other documents should strictly conform to the description given in our purchase order. Other terms and conditions are as given under special instructions form part of purchase order. Please see the instructions overleaf on despatch documents.

for **LG POLYMERS INDIA PVT. LTD.**

Authorised Official

TRUE COPY

**LG Chem****LG Polymers India Private Limited**RR Venkatapuram Post,
Visakhapatnam - 530 029, INDIAISO 9001:2015 &
ISO 14001:2015
BUREAU VERITAS
Certification

PRO / FTS / 8.4.1 / 002

Phone : 08933020455-58

Fax : 0891 - 2520338/528

Website : www.lgpi.co.in

PURCHASE ORDERCompany K.K.POONJA & SONS
3RD PHASE G I D C VAPI
PLOT NO 1422 & 1415 - 369195
Mobile : 7498037619
GSTIN:24AAAFK3847R1ZW

IN001302

PO Number : 4501384962 Dated : 16.04.2020
GSTIN : 37AAACL8528P1ZU
PAN : AAACL8528P
GSTIN State Name/Code: LG Polymers India Pvt Ltd/AP01
Your Reference : EMAIL Dated : 20.04.2020
Our Reference : KPK/BPB/SM Page 1 of 1

We are pleased to place an order on you for the supply of following materials/equipments as per the terms and conditions mentioned herein and overleaf.

Item	Description	Quantity	UOM	Rate	Amount
1	/PATETC0024 PARA TERTIARY BUTYL CATECHOL (PTBC) HSN/SAC Code : SPECIFICATIONS Purity : Min. 98% Color : Light Brown Appearance : Yellowish brown color clear liquid/Crystalline Solid/Viscous liquid	100.000	KG	625.00	62,500.00
TOTAL : Rupees sixty-two thousand five hundred only.					62,500.00

Special Instructions

PL SEND US TEST REPORT, ROHS & SHELF LIFE CERTIFICATE ALONG WITH THE MATERIAL

Vendor shall furnish Bank Account details such as Bank Account Number, IFS Code, Bank Name and Address on invoice.

GST 18%

You are required to Issue tax invoices in accordance with the provisions of GST Law, to avoid any complications with regards to the recognition of the time and place of supply of such goods or services.

Input tax credit would be allowed to LG Polymers India Private Limited (LGPI) only if you upload correct transaction wise details of sales made to LGPI. Any error would lead to LGPI not getting the credit of GST charged. Accordingly, it is important that all transactions of sales made to LGPI are correctly uploaded on the GSTN portal within the stipulated time.

LGPI reserves the right to deduct/ recover any loss of input tax credit due to any noncompliance, delays, negligence, error committed by you.

Please return scan copy of this order duly signed and stamped as token of your acceptance immediately.

PLEASE SEND THE MATERIAL THROUGH RAJ KAMAL TRANSPORT

TERMS:

PRICE BASIS : EXW VAPI
P&F CHARGES : INCLUSIVE
GST Tax : As applicable on documentary evidence
PAYMENT TERMS : Within 30 days from the date of InvoiceMODE OF DESP : By Road
DESPATCH DATE: 24.04.2020
FRIEGHT : EXTRA AT ACTUALS
INSURANCE : By us, Details overleaf

Nomenclature of material in the invoice and all other documents should strictly conform to the description given in our purchase order. Other terms and conditions are as given under special instructions form part of purchase order. Please see the instructions overleaf on despatch documents.

for LG POLYMERS INDIA PVT. LTD.

Authorised Official

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No. 40-3/2020-DM-I(A)
Government of India
Ministry of Home Affairs

ANNEXURE - M

North Block, New Delhi-110001
Dated 1st May, 2020

ORDER

Whereas under directions of the National Disaster Management Authority (NDMA), guidelines on lockdown measures to contain the spread of COVID-19 in all parts of the country were issued vide Order of even number dated 24.03.2020 under the Disaster Management Act 2005 for a period of 21 days with effect from 25.03.2020. Under further directions of NDMA, the lockdown period was extended upto 03.05.2020 vide Order of even number dated 14.04.2020 and consolidated revised guidelines were issued vide Order of even number dated 15.04.2020;

Whereas in exercise of the powers under section 6(2)(i) of the Disaster Management Act, 2005, NDMA has issued an Order number 1-29/2020-PP dated 01.05.2020 directing the Chairperson, NEC that lockdown measures be continued to be implemented in all parts of the Country, for a further period of two weeks with effect from 04.05.2020;

Whereas under directions of the aforesaid Order of NDMA dated 01.05.2020, and in exercise of the powers, conferred under Section 10(2)(l) of the Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, NEC, hereby issues directions to all the Ministries/ Departments of Government of India, State/Union Territory Governments and State/Union Territory Authorities that the lockdown period is extended for a further period of two weeks with effect from 04.05.2020;

Whereas, in exercise of the powers, conferred under Section 10(2)(l) of the Disaster Management Act, 2005, the undersigned, in his capacity as Chairperson, NEC, hereby issues new guidelines on lockdown measures, as annexed, which will come into effect from 04.05.2020 for a period of two weeks, for strict implementation.


Union Home Secretary

To:

1. The Secretaries of Ministries/ Departments of Government of India
2. The Chief Secretaries/Administrators of States/Union Territories
(As per list attached)

Copy to:

- i. All members of the National Executive Committee.
- ii. Member Secretary, National Disaster Management Authority.

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New Guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/ UT Governments and State/ UT authorities for containment of COVID-19 in the country for the extended period of National Lockdown for a further period of two weeks with effect from 4th May, 2020.

[As per Ministry of Home Affairs (MHA) Order No. 40-3/2020-DM-I (A) dated 1st May, 2020]

1. With the extension of the Lockdown period for a further period of two weeks with effect from 4th May 2020, new guidelines, as under, will be applicable based on the risk profiling of the districts into Red (Hotspot), Green and Orange zones.
2. **Identification of Red (Hotspots), Green and Orange Zones**
 - i. Based on their risk profile, the criteria for dividing the districts of the country into three zones, viz., **green, red and orange**, will be as follows:
 - a. **Green Zones:** Green Zones shall be defined as per the following criteria: districts with zero confirmed case till date; or, districts with no confirmed case in the last 21 days.
 - b. **Red Zones or Hotspot Districts:** Districts shall be defined as Red Zones or Hotspot districts, by Ministry of Health and Family Welfare (MoHFW), Government of India (GoI), taking into account total number of active cases, doubling rate of confirmed cases, extent of testing and surveillance feedback.
 - c. **Orange Zones:** Districts, which are neither defined as Red nor as Green Zones, shall be Orange Zones.
 - ii. MoHFW will share the list of Red Zone (Hotspot), Orange Zone and Green Zone districts and related information with State/ UTs on a weekly basis or earlier as required. States/ UTs, on review, may consider inclusion of **additional districts** as Red Zone (Hotspots) and Orange Zone districts depending on the extent of spread of COVID-19 infection. **However, States and UTs may not lower the classification of any district, that is included in the list of Red Zone (Hotspots) and Orange Zone districts by MoHFW.**
 - iii. Districts classified either as Red or Orange Zones, may have one or more Municipal Corporation (MC) areas. In such cases, States/ UTs and District administrations may make an assessment of the distribution of cases - within the jurisdiction of the MC(s); and the area falling outside the MC(s) boundaries. In such cases, the classification of zones shall be as follows:
 - a. In case the district is classified as a Red Zone, and, there is no confirmed case in the last 21 days in the area of the district outside the limits of the MC(s), this area may be labeled as an Orange Zone. However, due caution may be exercised in such areas so that they remain free from COVID-19 cases.
 - b. In case the district is classified as an Orange Zone, and, there is no confirmed case in the last 21 days in the area of the district outside the limits of the MC(s), this area may be labeled as a Green Zone. However, due caution may be exercised in such areas so that they remain free from COVID-19 cases.
 - c. In case in the area of the district outside the limits of the MC (s) does have one or more confirmed case(s) in the last 21 days, this part of the

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district shall continue to be labeled as a Red or Orange Zone, as per the classification of the district.

- d. While assessing the classification of a zone, cases should be registered in the zone where the case originates, rather than where it is treated.

3. Identification of Containment Zones

- i. Containment Zones shall be demarcated within **Red (Hotspots) and Orange Zones** by States/ UTs and District Administrations based on the guidelines of MoHFW. The boundary of the Containment Zone shall be defined by District Administrations taking into account the following factors: mapping of cases and contacts; geographical dispersion of cases and contacts; area with well demarcated perimeter; and enforceability.
- ii. The boundary of the Containment Zone will be a residential colony, *mohalla*, municipal ward, municipal zone, Police Station area, towns etc., in case of urban areas; and, a village, cluster of villages, Gram Panchayats, group of Police Stations, blocks etc., in case of rural areas.

Protocol within Containment Zones:

- iii. Intensive surveillance mechanism as outlined in the Standard Operating Protocol (SOP) issued by MoHFW is to be established within the Containment Zone. **The local authority shall ensure 100% coverage of Aarogya Setu app among the residents of Containment Zones.**
- iv. In the Containment Zone, following activities shall be undertaken by the local authorities:
- a. Contact Tracing.
 - b. Home or Institutional quarantining of individuals based on risk assessment by medical officers. This risk assessment will be based on symptoms, contact with confirmed cases, and travel history.
 - c. Testing of all cases with Severe Acute Respiratory Infection (SARI), Influenza Like Illness (ILI) and other symptoms specified by MOHFW.
 - d. House to house surveillance by special teams constituted for this purpose.
 - e. Clinical management of all cases as per protocol.
 - f. Counselling and educating people; and establishing effective communication strategies.
- v. In these **Containment Zones**, within Red (Hotspots) and Orange Zones, **where maximum precaution is required**, there shall be strict perimeter control to ensure that there is no movement of population in or out of these zones except for medical emergencies and for maintaining supply of essential goods and services. The guidelines issued in this regard by MoHFW will be strictly implemented by State/ UT Governments and the local district authorities.

4. The following activities will continue to remain prohibited across the country, irrespective of the Zone, for a period of two weeks with effect from 4th May, 2020:

- i. All domestic and international air travel of passengers, except for medical services, air ambulance and for security purposes or for purposes as permitted by MHA.
- ii. All passenger movement by trains, except for security purposes or for purposes as permitted by MHA.

- iii. Inter-State Buses for public transport, except as permitted by MHA.
 - iv. Metro rail services.
 - v. Inter-State movement of individuals except for medical reasons or for activities as permitted by MHA.
 - vi. All schools, colleges, educational/ training/ coaching institutions etc. However, online/ distance learning shall be permitted.
 - vii. Hospitality services other than those used for housing health/ police/ Government officials/ healthcare workers, stranded persons including tourists, and those used for quarantine facilities.
 - viii. All cinema halls, shopping malls, gymnasiums, sports complexes, swimming pools, entertainment parks, theatres, bars and auditoriums, assembly halls and similar places.
 - ix. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions/ other gatherings.
 - x. All religious places/ places of worship shall be closed for public. Religious congregations are strictly prohibited.
- 5. Measures for well being and safety of persons**
- i. The movement of individuals, for all non-essential activities, shall remain strictly prohibited between 7 pm to 7 am. Local authorities shall issue orders under appropriate provisions of law, such as prohibitory orders [curfew] under Section 144 of CrPC, for this purpose, and ensure strict compliance.
 - ii. In all zones, persons above 65 years of age, persons with co-morbidities, pregnant women, and children below the age of 10 years, shall stay at home, except for meeting essential requirements and for health purposes, as per the National Directives.
 - iii. In Containment Zones, Out-Patient Departments (OPDs) and Medical clinics shall not be permitted to operate. However, these may be permitted to operate in Red, Orange and Green Zones, with social distancing norms and other safety precautions.
- 6. Activities in Containment Zones**
- i. Strict perimeter control.
 - ii. Establishment of clear entry and exit points.
 - iii. Movement of persons only for maintaining supply of goods and services; and for medical emergencies.
 - iv. No unchecked influx of people and transport.
 - v. Recording of details of people moving in and out of perimeter.
- 7. Activities in Red Zones (Hotspots) [Outside Containment Zones]**
- i. Apart from the prohibited activities mentioned at Para 4, the following activities shall **not** be permitted:
 - a. Cycle rickshaws and auto rickshaws.
 - b. Taxis and cab aggregators.
 - c. Intra-district and inter-district plying of buses.
 - d. Barber shops, spas and salons.
 - ii. The following activities shall be permitted with **restrictions** as specified:
 - a. Movement of individuals and vehicles, only for permitted activities. Four wheeler vehicles will have maximum two passengers besides the vehicle driver; for two wheelers, pillion rider is not allowed.

- b. Industrial establishments in urban areas: Only Special Economic Zones (SEZs), Export Oriented Units (EOUs), industrial estates and industrial townships with access control; Manufacturing units of essential goods, including drugs, pharmaceuticals, medical devices, their raw material and intermediates; Production units, which require continuous process, and their supply chain; Manufacturing of IT hardware; Jute industry with staggered shifts and social distancing; and, Manufacturing units of packaging material are permitted.

All industrial activities are permitted in rural areas.

- c. Construction activities in urban areas: Only in situ construction (where workers are available on site and no workers are required to be brought in from outside) and construction of renewable energy projects are permitted.

All construction activities are permitted in rural areas.

- d. All malls, market complexes and markets shall remain closed in urban areas, i.e., areas within the limits of municipal corporations and municipalities. However, shops selling essential goods in markets and market complexes are permitted.

All standalone (single) shops, neighborhood (colony) shops and shops in residential complexes are permitted to remain open in urban areas, without any distinction of essential and non-essential.

All shops in rural areas, except in malls, are permitted to remain open, without any distinction of essential and non-essential.

Social distancing (*2 Gaz ki doori*) will be maintained in all cases.

- e. E-commerce activities will be permitted only in respect of essential goods.
- f. Private offices can operate with upto 33% strength as per requirement, with the remaining persons working from home.
- g. All Government offices shall function with officers of the level of Deputy Secretary and above to the extent of 100% strength. The remaining staff will attend upto 33% as per requirement. However, Defense and Security services, Health and Family Welfare, Police, Prisons, Home Guards, Civil Defence, Fire and Emergency Services, Disaster management and related services, NIC, Customs, FCI, NCC, NYK and Municipal services shall function without any restrictions; delivery of public services shall be ensured and necessary staff will be deployed for such purpose.

8. **Activities in Orange Zones [Outside Containment Zones]**

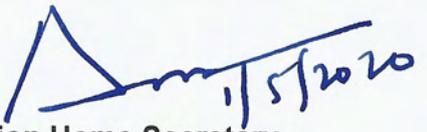
- i. Apart from the prohibited activities mentioned at Para 4, the following activities shall **not** be permitted:
 - a. Inter-district and Intra-district plying of buses.
- ii. The following activities shall be permitted with **restrictions** as are specified:
 - a. Taxis and cab aggregators, with 1 driver and 2 passengers only.
 - b. Inter-district movement of individuals and vehicles, only for permitted activities. Four wheeler vehicles will have maximum two passengers besides the driver.

- 9. Activities in Green Zones**
- i. All activities are permitted in Green Zones, except those activities that are prohibited under Para 4.
 - ii. Buses can operate with upto 50% seating capacity.
 - iii. Bus depots can operate with upto 50% capacity.
- 10. All other activities will be permitted activities, which are not specifically prohibited/ permitted with restrictions in the various Zones, under these guidelines. However, States/ UTs, based on their assessment of the situation, and with the primary objective of keeping the spread of COVID-19 in check, may allow only select activities from out of the permitted activities, with such restrictions as felt necessary.**
- 11.** All States/ UTs shall allow inter-state movement of goods/ cargo, including empty trucks.
- 12.** No State/ UT shall stop the movement of cargo for cross land-border trade under Treaties with neighbouring countries.
- 13.** No separate/ fresh permissions are required from authorities for activities already permitted to operate under the guidelines on Lockdown measures up to May 3, 2020. The following Standard Operating Protocols (SOPs) issued by MHA will continue to operate:
- i. SOP on transit arrangement for foreign national(s) in India and release of quarantine persons, issued vide Order dated April 02, 2020.
 - ii. SOP on movement of stranded labour within States/ UTs, issued vide Order dated April 19, 2020.
 - iii. SOP on sign-on and sign-off of Indian seafarers, issued vide Order dated April 21, 2020.
 - iv. SOP on movement of stranded migrant workers, pilgrims, tourists, students and other persons, issued vide Order dated April 29, 2020.
 - v. SOP on movement of stranded migrant workers, pilgrims, tourists, students and other persons by train, issued vide Order dated May 01, 2020.
- 14. Strict enforcement of the lockdown guidelines**
State/ UT Governments shall not dilute these guidelines issued under the Disaster Management Act, 2005, in any manner, and shall strictly enforce the same.
- 15. Instructions for enforcement of above lockdown measures:**
- i. All the district magistrates shall strictly enforce the above lockdown measures and the National Directives for COVID 19 Management, for public and work places, as specified in **Annexure I**.
 - ii. In order to implement these containment measures, the District Magistrate will deploy Executive Magistrates as Incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions. All other line department officials in the specified area will work under the directions of such Incident Commander. The Incident Commander will issue passes for enabling essential movements as explained.
 - iii. The Incident Commanders will in particular ensure that all efforts for mobilization of resources, workers and material for augmentation and expansion of hospital infrastructure shall continue without any hindrance.



16. Penal provisions

Any person violating these lockdown measures and the National Directives for COVID-19 Management will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides legal action under Sec. 188 of the IPC, and other legal provisions as applicable. Extracts of these penal provisions are at **Annexure II**.



Union Home Secretary

National Directives for COVID-19 Management**PUBLIC PLACES**

1. Wearing of face cover is compulsory in all public places.
2. All persons in charge of public places and transport shall ensure social distancing as per the guidelines issued by Ministry of Health and Family Welfare.
3. No organization/ manager of public place shall allow gathering of 5 or more persons.
4. Marriages related gatherings shall ensure social distancing, and the maximum number of guests allowed shall not be more than 50.
5. Funeral/ last rites related gatherings shall ensure social distancing, and the maximum numbers allowed shall not be more than 20.
6. Spitting in public places shall be punishable with fine, as may be prescribed by the State/ UT local authority.
7. Consumption of liquor, *paan*, *gutka*, tobacco etc. in public places is not allowed.
8. Shops selling liquor, *paan*, *gutka*, tobacco etc. will ensure minimum six feet distance (*2 gaz ki doori*) from each other, and also ensure that not more than 5 persons are present at one time at the shop.

WORK PLACES

9. Wearing of face cover is compulsory in all work places and adequate stock of such face covers shall be made available.
10. All persons in charge of work places shall ensure social distancing as per the guidelines issued by Ministry of Health and Family Welfare, both within the work places and in company transport.
11. Social distancing at work places shall be ensured through adequate gaps between shifts, staggering the lunch breaks of staff, etc.
12. Provision for thermal scanning, hand wash and sanitizer preferably with touch free mechanism will be made at all entry and exit points and common areas. In addition, sufficient quantities of handwash and sanitizer shall be made available in the work places.
13. Frequent sanitization of entire workplace, common facilities and all points which come into human contact e.g. door handles etc., shall be ensured, including between shifts.
14. Persons above 65 years of age, persons with co-morbidities, pregnant women and children below the age of 10 years shall stay at home, except for meeting essential requirements and for health purposes.
15. Use of *Arogya Setu* app shall be made mandatory for all employees, both private and public. It shall be the responsibility of the Head of the respective Organizations to ensure 100% coverage of this app among the employees.
16. Large physical meetings to be avoided.
17. Hospitals/ clinics in the nearby areas, which are authorized to treat COVID-19 patients, should be identified and list should be available at work place all the times. Employees showing any symptom of COVID-19 should be immediately sent for check up to such facilities. Quarantine areas should be earmarked for isolating employees showing symptoms till they are safely moved to the medical facilities.

18. Arrangements for transport facilities shall be ensured with social distancing, wherever personal/ public transport is not feasible.
 19. Intensive communication and training on good hygiene practices shall be taken up.
-



Offences and Penalties for Violation of Lockdown Measures**A. Section 51 to 60 of the Disaster Management Act, 2005**

51. Punishment for obstruction, etc.—Whoever, without reasonable cause

- (a) obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or
- (b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

52. Punishment for false claim.—Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

53. Punishment for misappropriation of money or materials, etc.—Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

54. Punishment for false warning.—Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.

55. Offences by Departments of the Government.—(1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to

be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act.—Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

57. Penalty for contravention of any order regarding requisitioning.—If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

58. Offence by companies.—(1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly:

Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purpose of this section—

- i. “company” means any body corporate and includes a firm or other association of individuals; and
- ii. “director”, in relation to a firm, means a partner in the firm.

59. Previous sanction for prosecution.—No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

60. Cognizance of offences.—No court shall take cognizance of an offence under this Act except on a complaint made by—

- (a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or
- (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised as aforesaid.

B. Section 188 in the Indian Penal Code, 1860

188. Disobedience to order duly promulgated by public servant.—Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury, to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both; and if such disobedience causes or tends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

Explanation.—It is not necessary that the offender should intend to produce harm, or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces, or is likely to produce, harm.

Illustration

An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious procession shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.

GOVERNMENT OF ANDHRA PRADESH**ABSTRACT**

Industries and Commerce Department – Containment, Control, and Prevention of COVID – 19 Epidemic – Resuming of Industries – Orders – Issued.

INDUSTRIES AND COMMERCE (P&I) DEPARTMENT

G.O.Rt.No.98

Dated:03.05.2020

Read the following: -

1. G.O. Rt.No.88, I& C (P&I) Department, Dt. 18.04.2020.
2. G.O. Rt.No.92, I& C (P&I) Department, Dt. 29.04.2020.
3. MHA, GoI Order No. 40-3/2020-DM-I(A) Dt. 01.05.2020.

ORDER:

The Industries and Commerce Department had issued consolidated guidelines vide GO Rt NO.88 given in the reference 1st read above along with certain modifications in GO Rt No.92 given in reference 2nd read above, for permitting industries to operate in the State duly imposing certain restrictions and distancing norms to prevent onset of community transmission of the Corona-virus.

2) Now, vide the order in reference 3rd cited above, the Ministry of Home Affairs (MHA), Government of India has issued new guidelines for containment of COVID-19 for the extended period of National lockdown for a further period of two weeks with effect from 4th May 2020.

3) As per the revised orders mentioned above, the districts in the State are categorised as Red, Orange and Green depending upon the case load and other factors. Districts of Kurnool, Guntur, Krishna, SPSR Nellore and Chittoor have been classified as Red Districts while Vizianagaram is classified as Green. The rest of the 7 districts are classified as Orange districts. The categorisation of mandals previously made will cease to exist with the new classification of districts.

4) In compliance of the above, partial modifications to the orders issued in G.O.Rt.No.88, Industries & Commerce Department, dated: 18.04.2020, are hereby issued:

- a. No Industrial activities shall be permitted in the Containment Zones either in the urban or rural areas. The Containment Zones shall be notified by the District Administration or the State government from time to time.
- b. The labour force working in the units shall not be taken from the Containment Zones as mentioned in point (a) above.
- c. Intermixing of labourers and staff coming from different places shall be avoided within the factory as far as possible.

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- d. Every industry shall function duly following all the social distancing norms and all other measures for containing the spread of COVID-19 and all such measures as required from time to time. The Industry shall display prominently the SOPs being followed for social distancing at their premises.
- e. **In the Rural areas, the following are applicable**
 - i. All Industrial activities are permitted completely subject to points (a) to (d) above and subject to safeguards for prevention of spread of COVID 19, without any reference to essential or non-essential products in all Red/Orange/Green districts.
- f. **In the Urban Areas, the following are applicable**
 - i. Industrial activities are permitted completely subject to points (a) to (d) above and subject to safeguards for prevention of spread of COVID-19, without any reference to essential or non-essential products in Orange and Green districts.
 - ii. In case of Red zone districts, Industrial establishments in **urban areas** subject to points (a) to (d) above shall be permitted as follows:
 1. Special Economic Zones (SEZs), Export Oriented Units (EOUs), industrial estates and industrial townships with access control.
 2. Manufacturing units of essential goods, including drugs, pharmaceuticals, medical devices, their raw material and intermediates; production units which require continuous process, and their supply chain; manufacturing of IT hardware; jute industry with staggered shifts and social distancing; and manufacturing units of packaging material.

5) No separate/ fresh permissions will be required from any authority for activities already permitted to operate under the guidelines on "lockdown" measures up to 3rd May, 2020. The Standard Operating Protocols (SOPs) issued by MHA will continue to operate.

6) After 3rd May, 2020, the industrial units can automatically resume operations in all permitted areas and activities as mentioned above, without any specific permission or NOC but with a self-certification to be given by the head of the industrial unit. S(he) will self-certify to run the unit by complying with all the Standard Operating Procedures (SOPs) with regard to social distancing and other measures for containing the spread of COVID-19 as prescribed in G.O. Rt. No. 88, without any relaxation whatsoever in this regard. A form for self-certification /under taking in place of NOC is required to be made along with the other details in <https://www.apindustries.gov.in/Covid19/> on resumption of operations.

7) The District Collectors as Chairpersons of the DIPC shall guide and encourage the permissible units to restart the operations and also operate with migrant labour wherever available so that skilled manpower is gainfully retained.

8) Therefore, the District Collectors / Superintendents of Police / Director of Industries, Andhra Pradesh, Vijayawada /Director of Factories, Andhra Pradesh, Vijayawada /Commissioner of Labour, Andhra Pradesh, Vijayawada/Commissioner of Transport, Andhra Pradesh, Vijayawada are hereby instructed to strictly implement the modified consolidated guidelines accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

NILAM SAWHNEY
CHIEF SECRETARY TO GOVERNMENT

To

1. All the District Collectors
2. All the Superintendent of Police
3. Commissioner of Police, Vijayawada and Visakhapatnam
4. Director of Industries, Andhra Pradesh, Vijayawada
5. Director of Industries, Andhra Pradesh, Vijayawada
6. Director of Factories, Andhra Pradesh, Vijayawada
7. Commissioner of Labour, Andhra Pradesh, Vijayawada
8. Commissioner of Transport, Andhra Pradesh, Vijayawada
9. All the General Managers of DIC
10. All the Zonal Managers of APIIC

Copy to:

PS to Chief Secretary to Government
PS to Special Chief Secretary to Govt., Industries & Commerce Dept.
PS to Secretary to Hon'ble Chief Minister
PS to DGP, Andhra Pradesh

// FORWARDED: : BY ORDER//

SECTION OFFICER

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ANNEXURE - N**Sequence of Events: (Time as recorded in CCTV footage. CCTV footage time lags behind IST by 16 minutes.)**

Date: 07.05.2020

- 02:42 AM: M6 tank Gas detector alarm A & B noticed in GPPS DCS by Boardman (Mr. Chakrapani) & Shift in charge (Atchyut)
- 02:48 AM: Safety person reached the nearest point (Alcohol building) to the tank farm. Confirmed vapours coming from M6 tank.
- 02:49 AM: Other teams from GPPS and EPS also reached Alcohol building area.
- 02:50 AM: NDO officer reached the Alcohol building
- 02:51 AM: Mr. Ganesh of EHS brought SCBA set from GPPS control room to canteen area
- 02:53 AM : NDO informed about the incident to Safety In charge and Director (O).
- 02:53 AM: All the team returned to main gate due to approaching vapours.
- 03:09 AM : Alerted security in charge to get the help from outside agencies (Fire service and ambulance.
- 03:10 AM: Safety officer and SM In charge reached the site.
- 03:18 AM: FCT from HIPS area entered through main factory gate.
- 03:37 AM :Gopalapatnam police reached factory
- 03:39 AM: Director Operations and Maintenance team leader reached to factory gate.
- 03:49 AM: Production team Leader reached factory gate.
- 04:09 AM: LGPI Safety person went with SCBA set to tank farm area and started sprinklers on M5 tank
- 04:26 AM: Plant Safety officer with one safety member went to tank farm area in FCT vehicle with SCBA sets and opened sprinklers M6 and Pentane tanks.
- 04:45 AM: M6 refrigeration switched on and sample collected from M6 tank.
- 04:47 AM: First lot of chemicals, 3 cans(20 ltrs each) of NDM shifted to M6 tank area in FCT vehicle
- 04:55 AM: NDM dumped into day tank and pumped into M6 tank.
- 05:10 AM: Vapours reduced and all emergency crew started approaching M6 tank for rescue operations.
- 05:13 AM: Second lot of chemicals, NDM cans & Eunox bags shifted to M6 tank area
- 05:18 AM: Third lot of chemicals, NDM cans & Eunox bags shifted to M6 tank area
- 05:39 AM: Eunox chemical bags shifted from HIPS area to SMH area.
- 05:44 AM: Chemical addition to day tank and pumping to M6 tank .
- 06:25 AM: SM transferred from M6 tank to FPT/F ST using GPPS transfer pump.
- 07:05 AM: Spare tank (1221A) manway closing activity started.
- 07:50 AM: TDM drums filled in FCT vehicle tank.
- 08:00 AM: TDM pumping started to M6 tank through foam pourer
- 08:30 AM: SM transfer started form M6 to 1221 A tank by gravity.
- 10:30 AM: SM transfer to 1221A stopped due to M6 bottom temperature reached 42 deg C.

Rescue operations continued till 9th May, 2020.

IN THE HIGH COURT OF ANDHRA PRADESH: AMARAVATI
(Special Original Jurisdiction)



THURSDAY, THE SEVENTH DAY OF MAY,
TWO THOUSAND AND TWENTY

:PRESENT:

HONOURABLE THE CHIEF JUSTICE SRI JITENDRA KUMAR MAHESWARI
AND
HONOURABLE SMT. JUSTICE LALITHA KANNEGANTI

SUO MOTU WP (PIL) NO: 112 OF 2020

In Re. Poisonous gas leakage in Visakhapatnam

Versus

1. The State of Andhra Pradesh,
Represented by the Chief Secretary,
Secretariat.,
Velagapudi, Amaravati.

2. Director General of Police,
Andhra Pradesh,
Mangalagiri, Guntur District

3. Commissioner of Police,
Visakhapatnam city

4. Union of India,
Rep by the Secretary,
Ministry of Industries, New Delhi

5. Union of India,
Rep by the Secretary,
Ministry of Environment and pollution, New Delhi

6. The District Collector,
Visakhapatnam District, Visakhapatnam.

7. The Superintendent,
King George Hospital,
Visakhapatnam.

8. M/s. LG Polymers Ltd.,
LG polymers Rd
RRV Puram, Naidu Thota,
Visakhapatnam, Andhra Pradesh 530029

...Respondents

Writ Petition under Article 226 of the Constitution of India praying to issue a Writ, order or direction, in the nature of Mandamus or any other appropriate writ calling for the records relating to the incident of leakage of poisonous gas from LG Polymers factory at Visakhapatnam at about 2.30 a.m. on the intervening night of 06.5.2020/07.05.2020, to direct the Respondents to take all necessary steps for saving the lives of the people in and around the said factory, to provide all necessary medical treatment to the persons who are admitted into various hospitals and to provide necessary facilities to the persons evacuated to safer places and also to issue necessary directions to avoid such incidents in future and to grant other relief/s as the Hon'ble Court may deem fit and proper in the circumstances.

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The Writ Petition coming on for hearing, upon perusing the material on record and upon hearing the arguments of Sri S. Sri Ram, learned Advocate General for the State and Sri Josyula Bhaskara Rao, Standing Counsel for Central Government, the Court made the following

ORDER:

Heard Sri S.Sri Ram, learned Advocate General for the State and Sri Josyula Bhaskara Rao, Standing Counsel for Central Government for Central Government.

The State Legal Services Authority reported that in a factory known as "M/s. LG Polymers India Private Limited" situated at R.R.Venkatapuram, Visakhapatnam District an untoward incident of leakage of the gas took place at about 3.30 a.m., today morning, in which number of casualties have been reported and number of persons are hospitalized in serious condition and they have been put on ventilators.

It has come to knowledge that that the said factory produce polymers by use of a chemical gas, which is known as "**Styrene**", which was leaked out. The said chemical is also known as ethenyl benzene, vinyl benzene and phenylethene which is an organic compound with chemical formula of $C_6H_5CH=CH_2$. It is a derivation of benzene as a colourless oily liquid while the aged samples can appear yellowish. The compound easily evaporates. By the leakage of the gas and its inhalation is dangerous to the life and health of the common citizen.

The Styrene being dangerous substance, is notified under the provisions of the Environmental Protection Act, 1986 as per the Rules known as Chemical Accident (Emergency Planning, Preparedness and Response) Rules 1996, Part-II in List of hazardous and toxic substances. Certain activities were required to be done under the provisions of those Rules by formulation of the Crisis Alert System, Central Crisis Group, State Crisis Group, District Crisis Group and Local Crisis Group. It is a matter of enquiry and assessment that the provisions of the said Rules have been observed or not.

As per the provisions of Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 formulated in terms of the provisions of the Environmental Protection Act also, Styrene has been shown as a hazardous chemical in the list of the hazardous chemicals specified at Sl.No.583. Under those rules there are general responsibilities of the occupier during industrial activity, notification for major accidents and other things are specified. It is also a matter of enquiry and assessment.

In view of the foregoing facts, the observance of the provisions of the Rules is a matter of concern while establishing and regulating the Industrial Unit of the polymer. It is also a matter of concern that at the time of issuance of such permission to run the industry due clearance as per the provisions of the Law has been taken, if it is so, then the use of Styrene gas in the industry which is hazardous to the citizens, how in nearby areas the residents have been permitted in mass; or otherwise the permission was wrongly granted to continue the said unit is required to be examined, but all these issues may be examined subsequently.

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However, looking to the present situation in which 8 persons have been reported as died and more than 300 persons are hospitalized, out of them about more than 80 persons are on ventilators, the present concern of the Court is to provide adequate medical facilities to the victims. The habitants residing in the nearby area are to be immediately evacuated by use of NDRF (National Disaster Response Force). In addition to the Government Hospitals, the local hospitals for providing adequate treatment the victims local hospitals must be opened by the indulgence of the State Government.

In the present situation of Pandemic COVID-19 spread, in which the lock down is continuing since more than a month, to which the Central Government as well as the State Government have issued adequate advisories, how its observance may be followed subject to enquiry that this industry was in preparation to reopen after lock down of 40 days was permissible.

In addition to providing adequate medical facilities, the arrangements of food and nutrition to the citizens including minor children and pregnant women are also a paramount consideration. Simultaneously the availability of adequate NDRF staff, consequential impact on environment as well as citizens is also a concern of the Court.

It is informed that the Central Government has directed to send the NDRF teams from the States of Gauhati, Goa and Daman and Diu to the State Government to take adequate steps. Simultaneously, a team of experts to study environmental impact is also directed with a further direction that the State be Authorities shall provide adequate medical facilities to the affected victims by indulgence of the State Government in local hospitals. The Central Government has issued certain directions today itself including the Dos, Don'ts and Precautions which are required to be scrupulously followed by the State Government.

We acknowledge the steps swiftly taken by the Central Government, but we further observe that in case the State Authorities are of the opinion that the NDRF staff is further required, they may ask from the Central Government sending the additional staff in Reserve Force to cope-up the present situation in the area, that includes evacuation of the affected persons, shifting them for medical aids, offering the adequate nutritional diet and medical facilities. It is further to observe that the State Government shall ensure to issue direction for opening of the private hospitals in Visakhapatnam area for medical aid to the needy persons.

It is further observed that the immediate steps to be taken to bring down the effect of the leakage of the Styrene gas by sprinkling of water or other substances which may curtail further damage by requesting Fire services from the nearby areas in reserve shall be ensured by the Government. Simultaneously, the repeated leakage must be checked.

It is further observed that while doing so, looking at the COVID-19 situation, in lock down, social distancing is primary concern otherwise it would create another disaster for the citizens.

The State Government shall ensure to appoint a Committee of appropriate Officers not below the rank of Principal Secretaries to monitor the things and submit the compliance in this regard within a week.

It is further made clear that the entire action of Disaster Management Authority is required to be supervised by the Chief Secretary of the State under the provisions of the Rules by which a Committee is already constituted to supervise the functioning of the Senior Officers.

The State Legal Services Authority shall assign appropriate Officer from the District Legal Services Authority, Visakhapatnam to supervise the recent issues and the Principal District Judge, Visakhapatnam may coordinate with the State officials on the issue. The District Legal Services Authority, Visakhapatnam shall give proper assistance through Para-legal volunteers.

Sri Y.V.Ravi Prasad, learned Senior Counsel is appointed as Amicus-curiae in this matter to assist the Court.

With the aforesaid, we postpone the hearing on 20.05.2020. Let the action taken report be made available on the said date.

Sd/- P. Ramakrishna
JOINT REGISTRAR

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for JOINT REGISTRAR

To

1. The the Chief Secretary, Government of Andhra Pradesh, Secretariat, Velagapudi, Amaravati.
2. Director General of Police, Andhra Pradesh, Mangalagiri, Guntur District
3. Commissioner of Police, Visakhapatnam city
4. The Secretary, Ministry of Industries, Union of India, New Delhi
5. The Secretary, Ministry of Environment and pollution, Union of India, New Delhi
6. The District Collector, Visakhapatnam District, Visakhapatnam.
7. The Superintendent, King George Hospital, Visakhapatnam.
8. M/s. LG Polymers Ltd., LG polymers Limited RRV Puram, Naidu Thota, Visakhapatnam, Andhra Pradesh 530 029
9. The Member Secretary, A.P. State Legal Services Authority, High Court Buildings
10. The Principal District Judge, Visakhapatnam.
11. The Secretary, District Legal Services Authority, Visakhapatnam District, Visakhapatnam
12. **Two CCs to Advocate General for the State of A.P.**
13. **Sri Josyula Bhaskara Rao, Standing Counsel for Central Government**
14. **Sri Y.V. Ravi Prasad, Senior Advocate (along with the papers on record)**
15. One spare copy

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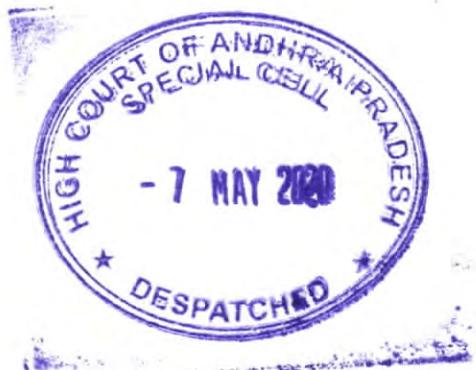
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HIGH COURT



HCJ & LK J

DATED:07/05/2020



NOTE: POST ON 20-05-2020

ORDER

WP(PIL).No.112 of 2020

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ANNEXURE - P

**IN THE HIGH COURT OF ANDHRA PRADESH AT AMARAVATHI
FRIDAY THE TWENTY SECOND DAY OF MAY,
TWO THOUSAND AND TWENTY**

,:PRESENT:

**THE HON'BLE THE CHIEF JUSTICE JITENDRA KUMAR MAHESHWARI
AND
THE HON'BLE SMT JUSTICE LALITHA KANNEGANTI**

WP (PIL) NO: 112 OF 2020

WP (PIL) NO: 117 OF 2020

AND

WP (PIL) NO: 119 OF 2020

**WP (PIL) NO. 112 OF 2020**

Between:

TAKEN UP, Polsonous gas leakage in Visakhapatnam

... Petitioner

AND

1. State Of Andhra Pradesh, Rep. by the chief secretary, Secretary, Velagapudi, Amaravati
2. Director General of Police, Andhra Pradesh, Mangalagiri, Guntur District
3. Commission of Police, Visakhapatnam City
4. Union of India, Rep by the Secretary, Ministry of Industries, New Delho
5. Union of India, Rep by the Secretary, Ministry of Environment and Pollution, New Delhi
6. The District Collector, Visakhapatnam District
7. The Superintendent, King George Hospital, Visakhapatnam
8. M/s. LG Polymers ltd., LG Polymers RD RRV Puram, Naidu Thota, Visakhapatnam, Andhra Pradesh 530029

...Respondents

Writ Petition under Article 226 of the Constitution of India praying to issue a Writ, order or direction, in the nature of mandamus or any other appropriate writ calling for the records relating to the incident of leakage of poisonous gas form LG Polymers factory at Visakhapatnam at about 2.30 a.m on the intervening night of 06.5.2020/07.05.2020, to direct the Respondents to take all necessary steps for saving the lives of the people in and around the said factory, to provide all necessary medical treatment to the persons who are admitted into various hospitals and to provide necessary facilities to the persons evacuated to safer places and also to issue necessary directions to avoid such incidents in future and to grant other relief/s as the Hon'ble Court may deem fit and proper in the circumstances.

The Writ Petitions coming on for hearing, upon perusing the Petition and the affidavit filed in support thereof and the order of the High Court order dated 07.05.2020 in WP (PIL) No. 112 of 2020 made herein and upon hearing the arguments of Sri Y.V. Ravi Prasad, Amicus Curiae, for the petitioner, Sri S.Sriram, Advocate General, for the Respondents Nos. 1, 2, 3, 6, 7, of Sri Josyula Bhaskar Rao, S.C. for Central Govt., for Respondents No.4 and 5 and of Sri D.Narendra Naik, for Respondent No.8.:

WP (PIL) NO: 117 OF 2020

Between:

Rapolu Bhaskar, S/o Late Rapolu Ramulu, Occ: Advocate, R/o Flat No.501,Vaishnavi Nest Apartments, Indira Nagar, Beside IKON Hospital, Dilsukhnagar, Hyderabad- 500 036. Cell- 9848498029

... Petitioner

AND

1. The State of Andhra Pradesh, Rep. by its Principal Secretary, Department of Industries, Secretariat, Andhra Pradesh.
2. The Commissioner, Department of Industries, O/o First Floor, Government Regional Printing Press Buildings, Mutyalampadu St, Vijayawada, 520 011,
3. The Proprietor, LG Polymers Pvt. Ltd, RR Venkatapuram, Vishakapatnam, Andhra Pradesh-530 029.
4. The Director, LG Polymers Pvt. Ltd, RR Venkatapuram, Vishalcapatnam, Andhra Pradesh-530 029

...Respondents

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Writ Petition under Article 226 of the Constitution of India praying to issue a Writ, Order or a Direction more Particularly in the nature of a Writ of Mandamus declaring the action of the respondents in not providing financial assistance and medical facilities to the affected people at Vishakhapatnam in the State of Andhra Pradesh and to direct the concerned authorities to take the action against the respondents who were responsible to cause this gas incident and to direct respondents to provide the best medical facilities to the injured persons and also to direct to the LG Polymers company management to give the compensation of Rs. 2 crores to the deceased families and Rs. 50 Lakhs to every injured persons and Rs.50,000 to the deceased cattle as well as Rs.5,00,000 to the damaged standing crop of the farmers and also to direct the company authorities to take full responsibilities to provide the medical facilities for the consequences of health issues in future and also immediately seize the company at present and also to direct to shift the company far from the Vishakhapatnam and also to direct the authorities to provide the double bedroom houses to the deceased people families under Apadbandhu Padakam and also ask the concerned authorities to submit the reports of regarding LG polymers gas leakage incident and safety measures by the respondents and concerned officers in the interest of justice.

IA NO: 1 OF 2020

Petition under Section 151 CPC praying that in the circumstances stated in the affidavit filed in support of the petition, the High Court may be pleased to direct the respondents forthwith to provide financial assistance and medical facilities to the affected people at Vishakhapatnam in the State of Andhra Pradesh and also to direct the respondents to take the action against the respondents who were responsible to cause this gas incident and to direct respondents to provide the best medical facilities to the injured persons and also to direct to the LG Polymers company management to give the compensation of Rs. 2 crores to the deceased families and Rs. 50 Lakhs to every injured persons and Rs.50,000 to the deceased cattle as well as Rs.5,00,000 to the damaged standing crop of the farmers and also to direct the company authorities to take full responsibilities to provide the medical facilities for the consequences of health issues in future and also immediately seize the company at present and also to direct to shift the company far from the Vishakhapatnam and also to direct the authorities to provide the double bedroom houses to the deceased people families under Apadbandhu Padakam and also ask the concerned authorities to submit the reports of regarding LG polymers gas leakage incident and safety measures by the respondents and concerned officers for the pending disposal of the above writ petition (PIL) No. 117 of 2020, on the file of the High Court.

The Writ Petitions coming on for hearing, upon perusing the Petition and the affidavit filed in support thereof and the order of the High Court order dated 07.05.2020 in WP (PIL) No. 112 of 2020 made herein and upon hearing the arguments of Sri Sri Ch. Markondaiah, Advocate for the Petitioner, of Sri S.Sriram, Advocate General, for the Respondent No.1 and of G.P. for Industries & Commerce, for Respondent No. 2:

WP (PIL) NO: 119 OF 2020

Between:

Ramakumar Sabbavarapu, S/o. S. Eswar Rao, Aged 38 years, R/o Door No. 2-1, Pinagadi Village, Pendurthi Mandal, Visakhapatnam 531173

... Petitioner

AND

1. The Union of India, Rep. by its Under Secretary, Ministry of Home Affairs, New Delhi.
2. The Union of India, Rep. by its Secretary, Ministry of Environment, Forest and Climatic Changes, New Delhi.
3. The Central Bureau of Investigation, Rep. by its Director, Plot No. 5-B, 6th Floor, CGO Complex, Lodhi Road, Jawaharlal Nehru Stadium Marg, Delhi 110003.
4. The State of Andhra Pradesh, Rep. by its Principal Secretary, Department of Industries, Velagapudi, Amaravathi.
5. The State of Andhra Pradesh, Rep. by its Secretary, Ministry of Environment, Forest and Climatic Changes, Velagapudi, Amaravathi.
6. The State of Andhra Pradesh, Rep. by its Secretary, Home Department, Velagapudi, Amaravathi.
7. The State of Andhra Pradesh, Rep. by its Secretary, General Administration Department (SC.I), Velagapudi, Amaravathi.
8. Central Pollution Control Board, Rep. by its Member Secretary, Parivesh Bhawan, Maharshi Valmiki Marg, East Arjun Nagar, Vishwas Nagar Extension, Shandara, Delhi, 110032.

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9. A.P. Pollution Control Board, Rep. by its Member Secretary, Kadiyala Vari St, Moghalrajpuram, Suryaraopeta, Vijayawada, Andhra Pradesh 520002.
10. The Collector and District Magistrate, Address. Krishnagar, Maharani Peta, Visakhapatnam, Andhra Pradesh 530002.
11. Commissioner of Labour, Kovelamudivari Street, Suryaraopeta, Vijayawada, Andhra Pradesh 520002.
12. Visakhapatnam Municipal Corporation, Rep. by its Commissioner, Chitralaya Rd, Suryabagh, Jagadamba Junction, Visakhapatnam, Andhra Pradesh 530020.
13. Chief Inspector of Factories, Department of Factories, Yadavula Bazar, Benz Circle, Vijayawada, Andhra Pradesh 520008.
14. State Crisis Group, Vijayawada, Krishna District.
15. Central Crisis Group, New Delhi
16. M/S LG Polymers India Pvt. Ltd., Rep. by its Managing Director, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029.
17. LG Chem, Rep. by its Managing Director, LG Twin Towers, 128 Yeoui-daer Yeongdeungpo-gu Seoul Korea, Republic of (South)
18. Byungkeun Song, Director, M/S LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029.
19. Hyun Seok Jang, Director, MIS LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029.
20. Sunkey Jeong, Director, MIS LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029.
21. Pooma Chandra Mohan Rao Pitchuka, Director, M/S LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029.
22. Chan Sik Chung, Director, MIS LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029.

...Respondents

Writ Petition under Article 226 of the Constitution of India praying to issue a writ, order or direction more particularly in the nature of a Writ of Mandamus and/or Certiorari and/or any other appropriate Writ(s) i. Declaring G.O. Rt. No. 449 dt 08.05.2020 and G.O. Rt. No. 803 dt 07.05.2020 as illegal and arbitrary to the extent that the State Government has ordered to pay compensation to the parties affected by the escape of Styrene Gas at about 3.30 AM on 07.05.2020 from the factory owned by LG Polymers India Pvt.Ltd in R.R.Venkatapuram Village, Pendurthy Mandal, Visakhapatnam(Gas Leakage or Incident) and consequently direct LG Polymers India Pvt Ltd. to pay the said compensation in the place and stead of the State Government. ii. Declaring the Schedule under Section 3(1) of The Public Liability Insurance Act, 1991 to be grossly inadequate and manifestly arbitrary and consequently revise the specified quantum of money payable as reliefs and/or direct the Union of India to revise the same as deemed fit and proper by this Hon'ble Court. iii. Directing the continuous implementation of Section 5, 6 and 7 of The Public Liability Insurance Act, 1991 and submission of weekly press reports by the District Collector, Visakhapatnam. iv. Directing LG Polymers India Pvt Ltd to state on affidavit all the compliances, standard operating procedures, permissions, insurance policies and other actions taken by it ensure the safety of its factory in R.R.Venkatapuram Village, Pendurthy Mandal, Visakhapatnam, India (Unit or Factory). v. Directing the Respondents to permanently close down the Factory and/or shift the Factory from the densely populated area to a suitable location. vi. Directing the Union of India to entrust the Central Bureau of Investigation or any other special/independent investigation agency to investigate into the Gas Leakage and if necessary, initiate prosecution against the persons responsible for the said incident including officials of the Government of Andhra Pradesh and LG Polymers India Pvt Ltd. vii. Directing the investigation authority to submit periodical status reports on the progress of the investigation into the Gas Leakage to this Hon'ble Court. viii. Directing the concerned departments to take action against the Officials departmentally for their negligent acts which led to the Gas Leakage. ix. Directing the Government of Andhra Pradesh to identify all other factories and industries in Andhra Pradesh which are flouting the applicable laws and take appropriate action against the said persons

The Writ Petitions coming on for hearing, upon perusing the Petition and the affidavit filed in support thereof and the order of the High Court order dated 07.05.2020 in WP (PIL) No. 112 of 2020 made herein and upon hearing the arguments of Sri Sai Sanjay Suraneni, Advocate for the Petitioner, of Sri N. Harinath, Assistant Solicitor General for Respondent Nos.1 &2, of Sri S.Ravi, Senior Counsel for Sri D. Ravindra Naik, Advocate for Respondent Nos.16 to 22 and of Sri S.Sriram, Advocate General, for the Respondent Nos. 4, 5, 6, 7, 11, 13 & 14:

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The Court made the following ORDER:

“Heard learned counsel appearing on behalf of petitioners and respondents in all the cases.

This Court on 07.05.2020 *suo-motu* has taken up the issue regarding leakage of Styrene Gas in Vizag and passed slew of directions to the respondents and also to file action taken reports by 20.05.2020. Both the State Government as well as Central Government filed their respective affidavits along with material to show the efforts made by them.

In the meantime, two Writ Petitions have been filed bearing W.P.Nos.117 of 2020 and 119 of 2020. In those Writ Petitions, certain issues have been raised. In addition to those issues and having regard to the following issues, explanation is necessary:

- *LG Polymers has been operating without a valid Environmental Clearance from the Ministry of Environment, Forests and Climate Change (MoEFCC).*
- *Dr.EASSarma (Former Energy Secretary/GOI) who filed a PIL in AP High Court over this issue, has included the report prepared by the duo (SagarDhara and K Babu Rao).*
- *The inhibitor concentration in the storage tank was not checked. Refrigeration system was not working properly.*
- *The radius of the vulnerable zone extended upto 6.3 Km from the source.*
- *There are several hospitals, educational institutions, places of worship, railway stations and airport within the vulnerable zone.*
- *Bystander population should have been informed of the risk they were at and trained in evacuation procedures in the event of an accident as per Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989. But, this has not been done.*
- *The siren/alarm system did not function.*

The replies filed by the State Government and Central Government are silent on the said issues.

The Advocate General and the Counsel appearing on behalf of the Assistant Solicitor General prays for time to apprise this Court and to file affidavit on the above said queries. Further, the reply is also necessary on the following issues:

- *What is the net worth of LG Polymers Pvt. Ltd., as per the provisions of the Companies Act, but not as per the book value.*
- *After registration of crime, on appointment of the investigation/inspection team and also when Magisterial enquiry was required, why, without appointment of the said panel or permission of the Court, Styrene Monomer has been permitted to be transported to South Korea and who is the person responsible for the same?*

After hearing the learned counsel appearing on behalf of both the parties, subject to filing reply by other side, we issue the following interim directions:

- i) The premises of the Company shall be completely seized and no one be allowed to enter into the premises including the Directors of the Company.
- ii) The Committee, if any, appointed wants to inspect the premises, they are at liberty but they shall put a note on the Register maintained at the gate of the Company regarding the said inspection and while returning, a note regarding the act done in the premises be also noted.
- iii) We further direct that none of the assets, movable or immovable, fixture, machinery and contents shall be allowed to be shifted without the leave of the Court.

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- iv) As stated before the Court, the Directors of the Company have surrendered their passport and they are in India, however, we direct that their passports shall not be released without the leave of the Court and they be not allowed to go outside to India without leave.
- v) It be also apprised whether, during the lock down period, any permissions were obtained to restart the operations; if not, action taken report in this regard be filed.
- vi) In regard to the grievance shown regarding appointment of various Committees by the National Green Tribunal, Central Government and State Government; the Central Government and State Government are at liberty to apprise as to which Committee shall fulfill the purpose to answer all the quests in issue.

We direct the respondents to file the compliance report by 26.05.2020.
List these cases on 28.05.2020.”

Sd/- M.S.V.NAVEEN CHANDRA
ASSISTANT REGISTRAR

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For ASSISTANT REGISTRAR

To,

1. The Chief Secretary, State Of Andhra Pradesh, Secretariat, Velagapudi, Amaravati (by RPAD)
2. The Director General of Police, Andhra Pradesh, Mangalagiri, Guntur District (by RPAD)
3. The Commission of Police, Visakhapatnam City (by RPAD)
4. The Secretary, Ministry of Industries, Union of India, New Delhi (by RPAD)
5. The Secretary, Ministry of Environment and Pollution, Union of India, New Delhi (by RPAD)
6. The District Collector, Visakhapatnam District (by RPAD)
7. The Superintendent, King George Hospital, Visakhapatnam (by RPAD)
8. M/s. LG Polymers Ltd., LG Polymers RD RRV Puram, Naidu Thota, Visakhapatnam, Andhra Pradesh 530029 (by RPAD)
9. The Principal Secretary, State of Andhra Pradesh, Department of Industries, Secretariat, Andhra Pradesh. (by RPAD)
10. The Commissioner, Department of Industries, 0/o First Floor, Government Regional Printing Press Buildings, Mutyalampadu St, Vijayawada, 520 011, (by RPAD)
11. The Proprietor, LG Polymers Pvt. Ltd, RR Venkatapuram, Vishakapatnam, Andhra Pradesh-530 029. (by RPAD)
12. The Director, LG Polymers Pvt. Ltd, RR Venkatapuram, Vishalcapatnam, Andhra Pradesh-530 029 (by RPAD)
13. The Under Secretary, Union of India, Ministry of Home Affairs, New Delhi. (by RPAD)
14. The Secretary, Union of India, Ministry of Environment, Forest and Climatic Changes, New Delhi. (by RPAD)
15. The Director, Central Bureau of Investigation, Plot No. 5-B, 6th Floor, CGO Complex, Lodhi Road, Jawaharlal Nehru Stadium Marg, Delhi 110003. (by RPAD)
16. The Secretary, State of Andhra Pradesh, Ministry of Environment, Forest and Climatic Changes, Velagapudi, Amaravathi. (by RPAD)
17. The Secretary, State of Andhra Pradesh, Home Department, Velagapudi, Amaravathi. (by RPAD)
18. The Secretary, State of Andhra Pradesh, General Administration Department (SC.I), Velagapudi, Amaravathi. (by RPAD)
19. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, Maharshi Valmiki Marg, East Arjun Nagar, Vishwas Nagar Extension, Shandara, Delhi, 110032. (by RPAD)
20. Member Secretary, A.P. Pollution Control Board, Kadiyala Vari St, Moghalrajpuram, Suryaraopeta, Vijayawada, Andhra Pradesh 520002. (by RPAD)
21. The Collector and District Magistrate, Krishnagar, Maharani Peta, Visakhapatnam, Andhra Pradesh 530002. (by RPAD)
22. Commissioner of Labour, Kovelamudivari Street, Suryaraopeta, Vijayawada, Andhra Pradesh 520002. (by RPAD)
23. The Commissioner, Visakhapatnam Municipal Corporation, Chitralaya Rd, Suryabagh, Jagadamba Junction, Visakhapatnam, Andhra Pradesh 530020. (by RPAD)
24. Chief Inspector of Factories, Department of Factories, Yadavula Bazar, Benz Circle, Vijayawada, Andhra Pradesh 520008. (by RPAD)
25. The State Crisis Group, Vijayawada, Krishna District. (by RPAD)
26. The Central Crisis Group, New Delhi (by RPAD)
27. The Managing Director, M/S LG Polymers India Pvt. Ltd., Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029. (by RPAD)

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28. The Managing Director, LG Chem, LG Twin Towers, 128 Yeoui-daer Yeongdeungpo-gu Seoul Korea, Republic of (South) (by RPAD)
29. Mr. Byungkeun Song, Director, M/S LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029. (by RPAD)
30. Mr. Hyun Seok Jang, Director, MIS LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029. (by RPAD)
31. Mr. Sunkey Jeong, Director, MIS LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029. (by RPAD)
32. Mr. Pooma Chandra Mohan Rao Pitchuka, Director, M/S LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029. (by RPAD)
33. Mr. Chan Sik Chung, Director, MIS LG Polymers India Pvt. Ltd, Quality Innovation and Solutions, RR Venkatapuram, Visakhapatnam 530029. (by RPAD)
34. One CC to Sri Y.V. Ravi Prasad, Amicus Curiae (by Mail)
35. One CC to Sri Josyula Bhaskar Rao, S.C. for Central Govt., (OPUC)
36. One CC to Sri D.Narendra Naik, Advocate (OPUC)
37. One CC to Sri Ch. Markondaiah, Advocate (OPUC)
38. One CC to Sri Sri Sai Sanjay Suraneni, Advocate (OPUC)
39. One CC to Sri D.Narendra Naik, Advocate (OPUC)
40. One CC to Sri S.Ravi, Advocate (OPUC)
41. One CC to Sri S.Sriram, Advocate (OPUC)
42. Two CC to THE ADVOCATE GENERAL Advocate [OUT]
43. Two CC to N. Harinath, Assistant Solicitor General (OUT)
44. Two CC to G.P. for Industries & Commerce, High Court of A.P. [OPUC]
45. One spare copy

MSR

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HIGH COURT

HCJ
&
LKJ

DATED: 22/05/2020

23 MAY 2020

NOTE : LIST THESE CASES ON 28.05.2020.

ORDER

WP(PIL).NO.112 OF 2020
WP(PIL).NO.117 OF 2020
AND
WP(PIL).NO.119 OF 2020

DIRECTION

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ITEM NO.21

Virtual Court No.1

SECTION XII-A

**S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S**

SPECIAL LEAVE PETITION (CIVIL) Diary No(s). 11636/2020

(Arising out of impugned final judgment and order dated 22-05-2020 in WPIL No. 112/2020 22-05-2020 in WPIL No. 117/2020 22-05-2020 in WPIL No. 119/2020 passed by the High Court Of Andhra Pradesh At Amravati)

M/S LG POLYMERS INDIA PVT. LTD.

Petitioner(s)

VERSUS

THE STATE OF ANDHRA PRADESH & ORS.

Respondent(s)

Date : 26-05-2020 This petition was called on for hearing today.

CORAM :

**HON'BLE MR. JUSTICE UDAY UMESH LALIT
HON'BLE MR. JUSTICE MOHAN M. SHANTANAGOUDAR
HON'BLE MR. JUSTICE VINEET SARAN**

For Parties:

**Mr. Mukul Rohatgi, Sr. Adv.
Ms. Pallavi Shroff, Adv.
Mr. Muthu Thangathurai, Adv.
Mr. Anuj Berry, Adv.
Mr. S. S. Shroff, AOR**

For Respondent(s)

**UPON hearing the counsel the Court made the following
O R D E R**

The order dated 22.5.2020 passed by the High Court of Andhra Pradesh at Amravathi is under challenge in the present proceedings.

While dealing with two Writ Petitions namely W.P.(Pil) Nos. and 119 of 2020, the High Court directed the State Government and the Central Government to respond to certain queries posed by the High Court. Those queries were as under:

Signature Not Verified
Digitally signed by
INDU MALHOTRA
Date: 2020.05.26
15:32:09 IST
Reason:

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“.What is the net worth of LG Polymers Pvt. Ltd., as per the provisions of the Companies Act, but not as per the book value.

.After registration of crime, an appointment of the investigation/inspection team and also when Magisterial enquiry was required, why, without appointment of the said panel or permission of the Court, Styrene Monomer has been permitted to be transported to South Korea and who is the person responsible for the same?

Thereafter, certain interim directions were passed which for facility are set out hereunder:

“i) The premises of the Company shall be completely seized and no one be allowed to enter into the premises including the Directors of the Company.

ii) The Committee, if any, appointed wants to inspect the premises, they are at liberty but they shall put a note on the Register maintained at the gate of the Company regarding the said inspection and while returning, a note regarding the act done in the premises be also noted.

iii) We further direct that none of the assets, movable or immovable, fixture machinery and contents shall be allowed to be shifted without the leave of the Court.

iv) As stated before the Court, the Directors of the Company have surrendered their passport and they are in India, however, we direct that their passports shall not be released without the leave of the Court and they be not allowed to go outside to India without leave.

v) It be also apprised whether, during the lock down period, any permissions were obtained to restart the operations, if not, action taken report in this regard be filed.

vi) In regard to the grievance shown regarding appointment of various Committees by the National Green Tribunal, Central Government and State Government; the Central Government and State Government are at liberty to apprise as to which Committee shall fulfill the purpose to answer all the quests in issue.”

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Mr. Mukul Rohatgi, learned Senior Advocate appearing for the petitioner submitted that a complete seizure or sealing of plant/premises will have tremendous adverse consequences and impact. It was submitted that the temperature of the plant cannot be allowed to go beyond 25° C; and if by any chance because of lack of adequate attention or safety measures, if the temperature goes beyond 25° C situation can have some ill effects. He, therefore, submitted that atleast 28 technical personnel and two administrative officials/incharge must be given emergency access to the plant/premises at any given point of time so that adequate safety measures are undertaken round the clock. Mr. Rohatgi submitted that the list of these 30 personnel can be furnished to the District Collector by 4.00P.M. today so that access to those persons to such areas of the plant as are necessary can always be ensured.

It was further submitted that at the intermediate stages of manufacture, the Polymers that the petitioner manufactures can have toxic effects and therefore adequate safety measures have to be undertaken every time. He further submitted that the premises in question also house the administrative and Law Offices of the Company and in case the entirety of the premises are seized/sealed, the operation of the company will stand seriously prejudiced. It was submitted that the products lying for clearance be allowed to be cleared so that there are no adverse financial effects on the Company.

It was submitted that the inspections to be carried pursuant to the directions issued by the High Court must be in the presence

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of officials of the Company so that adequate assistance as well as complete knowledge about the processes undertaken by the petitioner could also be highlighted sufficiently.

Mr. Rohatgi further submitted that one of the applications is also directed to be listed before the High Court on 27.5.2020.

Though, *prima facie*, we see force in the submissions, considering the fact that the compliance report was directed to be filed by 26.5.2020 and the matters may be taken up on 27.5.2020 & 28.5.2020, we give liberty to the petitioner to place all these issues and aspects for consideration by the High Court.

As an *ad interim* measure, we permit the petitioner to give a list of 30 personnel as discussed hereinabove. Upon such names being given to the District Collector, those persons shall be afforded access to the plant round the clock to maintain adequate safety measures.

This *ad interim* direction will continue till the High Court considers the matter. The High Court may, thereafter, pass appropriate directions.

All the submissions as noted above may be raised before the High Court.

List alongwith Civil Appeal Diary No(s). 11327/2020 on 8.6.2020.

(INDU MARWAH)
COURT MASTER (SH)

(PRADEEP KUMAR)
BRANCH OFFICER

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IN THE HIGH COURT OF ANDHRA PRADESH AT AMARAVATHI

(Special Original Jurisdiction)

THURSDAY, THE EIGHTH DAY OF OCTOBER TWO THOUSAND AND TWENTY

:PRESENT:

**THE HON'BLE THE CHIEF JUSTICE SRI JITENDRA KUMAR MAHESHWARI
AND
THE HON'BLE SMT JUSTICE LALITHA KANNEGANTI**

WP (PIL) NO: 112 OF 2020

WP (PIL) NO. 112 OF 2020

Between:

TAKEN UP, Poisonous gas leakage in Visakhapatnam

... Petitioner

AND

1. State Of Andhra Pradesh, Rep. by the Chief Secretary, Secretary, Velagapudi, Amaravati
2. Director General of Police, Andhra Pradesh, Mangalagiri, Guntur District
3. Commissioner of Police, Visakhapatnam City
4. Union of India, Rep by the Secretary, Ministry of Industries, New Delhi
5. Union of India, Rep by the Secretary, Ministry of Environment and Pollution, New Delhi
6. The District Collector, Visakhapatnam District
7. The Superintendent, King George Hospital, Visakhapatnam
8. M/s. LG Polymers Ltd., LG Polymers RD RRV Puram, Naidu Thota, Visakhapatnam, Andhra Pradesh 530029.

...Respondents

Writ Petition under Article 226 of the Constitution of India praying to issue a Writ, order or direction, in the nature of Mandamus or any other appropriate writ calling for the records relating to the incident of leakage of poisonous gas from LG Polymers factory at Visakhapatnam at about 2.30 a.m on the intervening night of 06.5.2020/07.05.2020, to direct the Respondents to take all necessary steps for saving the lives of the people in and around the said factory, to provide all necessary medical treatment to the persons who are admitted into various hospitals and to provide necessary facilities to the persons evacuated to safer places and also to issue necessary directions to avoid such incidents in future and to grant other relief/s as the Hon'ble Court may deem fit and proper in the circumstances.

IA NO: 2 OF 2020

Petition under Section 151 CPC praying that in the circumstances stated in the affidavit filed in support of the petition, the High Court may be pleased to grant leave and permitting the respondent No.8 Company to take out and sell the finished goods / products i.e. 1505.05 MT of Polystyrene, 2621.12 MT of Expandable Polysterene, and 361.193 MT of Engineered Plastics Compound which were manufactured prior to 24.03.2020 and are presently stored in godowns at the Plant.

IA NO: 3 OF 2020

Petition under Section 151 CPC praying that in the circumstances stated in the affidavit filed in support of the petition, the High Court may be pleased to lift the seizure order and direct the State to allow ingress and egress of all personnel including the Directors of the Company into the premises of the Respondent No.8 company including to accompany the Members of various Committees during inspection/enquiries.

IA NO: 13 OF 2020

Petition under Section 151 CPC praying that in the circumstances stated in the affidavit filed in support of the petition, the High Court may be Pleased to lift the seizure order imposed vide the order dated 22-05-2020 issued by this Hon'ble Court in WP (PIL) No.112 of 2020, WP (PIL) No. 117 of 2020 and WP (PIL) No.119 of 2020.

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The Writ Petitions coming on for hearing, upon perusing the Petition and the affidavit filed in support thereof and the order of the High Court order dated 07.05.2020, 22.05.2020, 24.01.2020 & 29.05.2020 made herein and upon hearing the arguments of Sri Y.V. Ravi Prasad, Amicus Curiae, for the petitioner, Sri S.Sriram, Advocate General, for the Respondents Nos. 1, 2, 3, 6 and 7, of Sri Josyula Bhaskar Rao, S.C. for Central Govt., for Respondents No.4 and 5 and of Sri D.Narendra Naik, for Respondent No.8.;

ORDER:

(taken up through video conferencing)

Heard on I.A.No.13 of 2020, which is an application filed by respondent No.8 in *taken up* W.P.(PIL) No.112 of 2020, for lifting the seizure order, dated 22.05.2020, passed in *taken up* W.P.(PIL) No.112 of 2020 and W.P.(PIL) Nos.117, 119 and 147 of 2020.

Sri S.Ravi, learned senior counsel, representing Sri D.Narendar Naik, learned counsel, appears on behalf of the applicant, and states that in terms of the averments made in paragraph 4 of the counter-affidavit filed on behalf of respondent Nos.1, 2, 3 and 6 in *taken up* W.P. (PIL) No.112 of 2020, he has filed a memo, dated 28.09.2020, on behalf of the applicant, specifying the names of 16 personnel, who may be permitted the ingress and egress to the applicant premises, particularly, to enter into the Accounts Department. Learned senior counsel accordingly, restricts the prayer made in I.A.No.13 of 2020 to the above extent.

After hearing the learned counsel on either side, and considering the fact that all the records are inside the applicant premises and therefore, the applicant is not in a position either to answer the queries raised by various committees or to file affidavits before various Courts and Tribunals, we permit 16 personnel as specified in the aforesaid memo for their ingress and egress to the applicant premises, particularly, to enter into the Accounts Department.

So far the objection raised by the learned Advocate General representing the State Government regarding watch on those personnel and the safety of the documents in the applicant premises is concerned, video cameras may be fixed by the State Government for that purpose.

In view of the foregoing, the District Collector shall permit the ingress and egress of 16 personnel as specified in the aforesaid memo to the applicant premises, particularly, to

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enter into the Accounts Department and he is at liberty to supervise their work confining to the extent stated above, by arranging video cameras. Accordingly, I.A.No.13 of 2020 is ordered.

List this writ petition 'for further orders/final disposal with the consent of the parties, if possible', in the week commencing from 02.11.2020.

Let the relevant reports/documents be supplied to each other by the learned counsel on either side, if not already done, by the next date of listing, facilitating the aggrieved parties to come out with their counter-affidavits/objections, if any.

Sd/- R. KARTHIKEYAN
ASSISTANT REGISTRAR

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For ASSISTANT REGISTRAR

To,

1. The Chief Secretary, State Of Andhra Pradesh, Secretariat, Velagapudi, Amaravati
2. The Director General of Police, Andhra Pradesh, Mangalagiri, Guntur District
3. The Commissioner of Police, Visakhapatnam City
4. The Secretary, Ministry of Industries, Union of India, New Delhi
5. The Secretary, Ministry of Environment and Pollution, Union of India, New Delhi
6. The District Collector, Visakhapatnam District
7. The Superintendent, King George Hospital, Visakhapatnam
8. M/s. LG Polymers Ltd., LG Polymers RD RRV Puram, Naidu Thota, Visakhapatnam, Andhra Pradesh 530029. (1 to 8 by RPAD)
9. One CC to Sri Y.V. Ravi Prasad, Amicus Curiae (by Mail)
10. One CC to Sri Josyula Bhaskar Rao, S.C. for Central Govt., (OPUC)
11. One CC to Sri D.Narendra Naik, Advocate (OPUC)
12. One CC to Sri S.Ravi, Advocate (OPUC)
13. One CC to Sri S.Sriram, Advocate (OPUC)
14. Two CC to the Advocate General, High Court of A.P. [OUT]
15. Two CC to N. Harinath, Assistant Solicitor General (OUT)
16. Two CC to G.P. for Industries & Commerce, High Court of A.P. [OPUC]
17. Two spare copies

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HIGH COURT

**HCJ
&
LKJ**

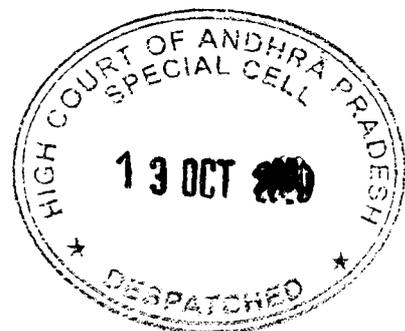
DATED: 08.10.2020

NOTE : LIST THIS WRIT PETITION 'FOR FURTHER ORDERS/FINAL DISPOSAL WITH THE CONSENT OF THE PARTIES, IF POSSIBLE', IN THE WEEK COMMENCING FROM 02.11.2020.

ORDER

WP(PIL).NO.112 OF 2020

DIRECTION



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**IN THE HIGH COURT OF JUDICATURE OF ANDHRA PRADESH
AT AMARAVATHI**

SUO MOTO W.P. (PIL) No. 112 OF 2020

Between:

In Re: Poisonous Gas Leakage in Visakhapatnam

AND

The State of Andhra Pradesh,
Rep., by its Principal Secretary and 7 Others

...Respondents

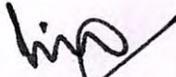
**ACTION TAKEN REPORT FILED BY RESPONDENT NO. 6 ON BEHALF
OF RESPONDENT NOS. 1,2,3 AND 6**

I, V. Vinay Chand, S/o. Pavan Kishore, aged about 39 years, presently working as District Collector, Vishakhapatnam, R/o. Vishakhapatnam, do hereby swear on oath and state as follows:

1. I submit that I am the 6th Respondent herein and as such I am well aware of the facts of the case. I submit that I am filing this action taken report on behalf of Respondent Nos. 1,2 and 3 also as I am authorized to do so.
2. I submit that, this Hon'ble Court had passed an order in the above taken up PIL on 07-05-2020, wherein it was pleased to direct the Respondents to file an action taken report by the next date of hearing.
3. I submit that, a tragic incident had taken place on intervening night of 07.05.2020 at around 3.00 AM when Styrene gas stored in the storage tanks of M/S LG Polymers Ltd., started emitting high voltaic organic contaminants. As


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AT SECTION
COLLECTOR'S OFFICE
VISA KHAPATNAM

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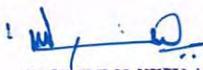

DEPONENT
District Collector
Visakhapatnam

a result Styrene gas spread in the vicinity of the plant to a radius of nearly 0.6 km predominantly in the westward direction. This affected the immediate six colonies / villages of Venkatapuram, Venkatadri Nagar, Padmanabhapuram, SC BC Colony, Nandamuri Nagar, R.R.Venkatapuram. However, the incident lead to the residents of the other colonies in the neighbourhood also to leave their houses for safety.

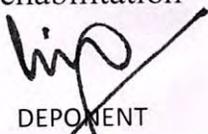
4. I submit that, due to the spread of the gas, the people in the are started showing symptoms of breathing difficulties, skin rashes, sour eyes, vomiting and unconsciousness. Immediately, the District Collector, the Commissioner of Police and other officials have visited the affected areas and deployed Police officials, GVMC, Disaster Response & Fire Services Department, NDRF teams, SDRF teams and public transport for conducting rescue and relief operations to the victims as stated below;

Sl. No	Relief & Rescue teams	Relief measures
1	NDRF	Attended with 34 members & 1 Doctor
2	Medical	108 vehicle - 15 & Ambulances - 22
3	APSRTC	40 Buses
4	Fire Department	21 fire tenders & 120 teams
5	GVMC	Supplied 12,000 food packets & 14,000 water bottles
6	Simhachalam Devasthanam	Provided shelter and also supplied food to 800 people

5. I submit that, due to the said gas leak 12 persons have lost their lives and 5 localities surrounding the factory have been affected. Further, medical treatment was provided to 585 victims including 1 patient with ventilator support at various hospitals in and around Visakhapatnam City. Further, the loss of animals reported is 25 including Buffaloes, Cows etc., The inhabitants in the affected areas were evacuated and transported to 23 rehabilitation


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centers maintained by GVMC as well as Simhachalam Devasthanam authorities. The list of rehabilitation centers is herewith enclosed for kind perusal. The list of deceased persons and the persons undergoing in-patient and out-patient treatment is also filed herewith.

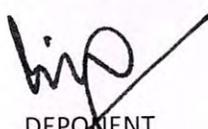
6. I submit that the Hon'ble Chief Minister of Andhra Pradesh immediately visited Visakhapatnam District on 07.05.2020 and proceeded to the King George Hospital to meet and console the family members of the deceased and the patients undergoing treatment. The Hon'ble Chief Minister announced a Special Relief Package for the victims/affected people as follows:

Sl. No	Particulars	Amount announced
1	Ex gratia to the kin of the deceased	Rs. 1 Crore per person
2	Patients undergoing treatment on ventilator	Rs. 10 lakhs per person
3	Patients hospitalized for 2-3 days	Rs. 1 Lakh per person
4	Patients who have undergone primary treatment	Rs. 25,000 per person
5	Affected villagers	Rs. 10,000 per person
6.	Exgratia for the dead animals	Rs 20,000 per animal

7. I submit that, the Hon'ble Chief Minister of Andhra Pradesh directed the Chief Secretary to Government, Andhra Pradesh to supervise and monitor the situation by camping at Visakhapatnam. Accordingly, the Chief Secretary to Government, Andhra Pradesh along with the Group of Ministers have convened a meeting on 07/05/2020 at Collector's Office, Visakhapatnam with District officials and issued instructions and constituted various committees to enquire into the situation i.e., 1) Internal Committee to verify whether the procedure is being followed in the Industry in controlling the emissions 2) Committee with 4 Andhra University professors from academic side to


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VISAKHAPATNAM

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study the present scenario and advise the District Administration
3) Committee to check for leakages every hour, 4) Committee for testing of Food Grains, Millets and pulses in the Vicinity of affected areas 5) Committee to ensure free treatment in the Hospitals.

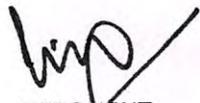
8. I further submit that the Government has issued G.O.RT.No.803 General Administration (SC.I) Department, Dt:08.05.2020 constituting High - Power Committee with the following members to probe into the causes behind the gas leak and suggest measures to improve the protocol for industrial safety of similar type of plants and to take stock of the recovery steps being taken in response to the incident.

Sl. No	Name of the officer & designation	Department	Chairman/Member
1	Sri Neerab Kumar Prasad, IAS, Special Chief Secretary to Govt., & CCLA, AP, Vijayawada	EFS & T	Chairman
2	Sri R.Karikal Valaven, IAS, Special Chief Secretary to Government	Industries & Commerce	Member
3	Sri V.Vinay Chand, IAS	District Collector Visakhapatnam	Member
4	Sri R.K.Meena, IPS	Commissioner Of Police, Visakhapatnam	Member
5	Sri Vivek Yadav, IAS	Member Secretary, AP Pollution Control Board	Member-Convener

9. I submit that, the Central Government has also deployed an expert committee from NEERI, Nagpur and NDRF, Pune along with reduction material to control the emission of gas through air. The said team reached the spot on 08.05.2020 midnight and advised on bringing the temperature of the tank by a multi-pronged strategy of Inhibitor Dosing, Water Spraying and


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VISAKHAPATNAM

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District Collector
Visakhapatnam

Water Injection. Accordingly, the temperature of the tank started reducing and the emissions have reduced to near zero levels by 09.05.2020

10. I submit that, in accordance to the assurance of the Hon'ble Chief Minister of Andhra Pradesh for payment of compensation / ex-gratia to the victims of LG Polymer Gas leakage incident, the Government vide GO.Ms.No.449, Revenue (CMRF & FWC) Dept, Dt.08.05.2020 has issued orders releasing ex-gratia / financial assistance to the deceased / victims and the following amounts are paid as detailed below;

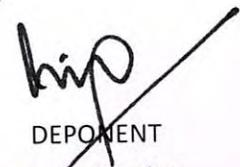
Sl. No	Particulars	Amount announced	Members	Amount paid
1	Exgratia to the Kin of the deceased	1 Crore	12	12 Crores
2	People on ventilator	10.00 lakhs	1	10 Lakhs
3	Hospitalized for 2-3 days	1 Lakh	485	485 Lakhs
4	People undergone primary treatment	25,000	99	24,75,000
5	To affected villagers	10,000	19893	19,89,30,000
6.	Died Animals		25 Animals (8 Owners)	8,75,000

11. I submit that, an expert group comprising of 10 doctors has been constituted for offering opinion and to give inputs regarding the follow up of patients admitted with Styrene Poisoning on 07.05.2020 and further the committee is expected to advice the consequence on the asymptomatic persons in the affected colonies/ areas. The said committee consists of:

- | | | | |
|----|-------------------------|---|----------|
| 1. | Principal, AMC | - | Chairman |
| 2. | Prof & HOD, Pulmonology | - | Member |
| 3. | Prof & HOD, Pediatrics | - | Member |
| 4. | Supdt of REH | - | Member |
| 5. | Prof & HOD, Neurology | - | Member |
| 6. | I/c Prof Gastroentology | - | Member |
| 7. | Prof & HOD SPM | - | Member |


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District Collector
Visakhapatnam

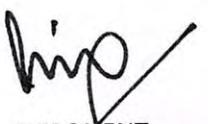
- | | | | |
|-----|--------------------------------|---|--------|
| 8. | Prof Gen Med | - | Member |
| 9. | Prof & HOD Pathology | - | Member |
| 10. | Associate Prof of Biochemistry | - | Member |

It is further submitted that the basic recommendations of the said committee are as follows:

1. Baseline study of the population and establishment of registry with different cohorts.
2. Data analysis of all the patients admitted in KGH and available hospitals.
3. Formulation of a medical cell in the nearby village.
4. Baseline investigations suggested by departments of General medicine, Pediatrics, Gastroenterology and Pathology should be done:
 - a. Haemogram
 - b. LFT
 - c. RFT
 - d. CRP
 - e. X-Ray
 - f. If possible serum styrene levels and urine mandelic acid levels. Intervals of testing are 1 month, 3 months, 6 months and 1 year.
5. Monitoring of Pregnant women with outcome of Pregnancy and 1 year follow up of newborns.
6. Other Departmental Recommendations:
 - a. Neurology:
 1. To study post trauma stress disorder (Psychological Analysis)
 2. Cognitive dysfunction – Psychometric Test for Children
 3. CNS-EEG, MRI Brain if required
 4. PNS-NCV if required
 - b. Pulmonology:
 1. Baseline respiratory status (COPD)
 2. Symptomatic patients will be followed with X-Ray and CT Thorax if required.
 - c. Ophthalmology:
 1. Symptomatic patients to undergo sit lamp examination.
 2. Neurological examination for visual defects.
7. To include technical experts from pollution control board & BIRAC like Dr. Batnagar.
8. Individual departments will monitor the change in health status of individuals in affected villages and will compare with health status of public in unaffected villages. Necessary action will have been initiated in the affected areas as per the said recommendations.


 SUPERINTENDENT
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 COLLECTOR'S OFFICE
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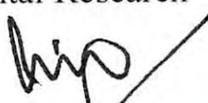
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 DEPARTMENT
 District Collector
 Visakhapatnam

12. I submit that, 6 Static Medical camps in all the villages along with 6 Ambulances have been arranged with one Medical Officer and 2 Specialists in 6 locations i.e, 1.Venkatapuram, 2.Nandamurinagar, 3.Padmanabhanagar, 4.Kamparapalem, 5.Pydimamba Colony, 6.SC-BC Colony and a permanent clinic is proposed to be organized in the central location for all the affected villages with the following arrangements: (1) 20 beds for admissions with any complaints for immediate primary care. (2) A Physician along with paramedical staff to attend to the medical needs of the patients in the area. (3) Linked to the CHC Gopalapatnam for all referrals. (4) Availability of all the basic medicines required for the primary care. (5) Immediate access to health care for the people of the area is the prime criteria. It may be further submitted that directions were issued to the private hospitals for providing medical aid to the affected persons / victims and the expenditure will be incurred by the State Government as the said treatment will come under Dr. YSR Arogyasri Scheme
13. I submit that, during rehabilitation of the victims, necessary measures have been taken, to maintain social distancing in view of the prevailing COVID-19 situation at relief camps. The sanitation activities being taken up by the GVMC Visakhapatnam is mainly in two phases:
1. External sanitation includes cleaning of streets, removal of debris, cleaning of drainages, spraying bleaching along streets etc.,
 2. Internal sanitation includes opening of houses, cleaning floors with water, opening windows, drain out the well water in all houses etc.,
14. I submit that the GVMC authorities are providing drinking water to all inhabitants and also providing masks to every person in the affected areas / colonies. Further, as per the directions of the National Environmental Research


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Visakhapatnam

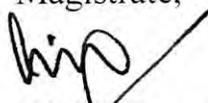
Institute, 13,000 tones of Styrene monomer which was stored in 5 tanks at LG Polymers, were shifted back to South Korea through two vessels from Visakhapatnam Port. It is further submitted that the Government has also constituted 4 teams with Deputy Chief Inspector of Factories as Convener, an officer from Boilers Department, Pollution Control Board, Industries Department and two Professors from Andhra University to study the status of remaining factories in Visakhapatnam city to determine the future risks if any.

15. I submit that in view of the orders passed by this Hon'ble High Court a High Power Committee has been constituted by the Government vide G.O.RT.No.803 General Administration (SC.I) Department, Dt:08.05.2020 in the cadre of Spl. Chief Secretary to Government to probe into the causes behind the gas leak and suggest measures to improve the protocol for industrial safety of similar type of plants and to take stock of the recovery steps being taken in response to the incident. The report is awaited from the Committee.

16. I submit that, the Hon'ble National Green Tribunal vide Application No. 73/2020 has taken up the case Suo – moto and issued direction as follows
"Having regard to the prima facie material regarding the extent of damage to life, public health and environment, we direct LG Polymers India Pvt., Limited to forthwith deposit an initial amount of Rs. 50 Crore, with the District Magistrate, Vishakhapatnam, which will abide by further orders of this Tribunal. The amount is being fixed having regard to the financial worth of the company and the extent of the damage caused". As per the orders of the National Green Tribunal, the LG Polymers India Pvt. Ltd deposited an amount of Rs.50 crores in the name of the Collector & District Magistrate,


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 VISAKHAPATNAM

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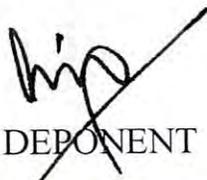

 DEPONENT
 District Collector
 Visakhapatnam

Visakhapatnam. The said amount was deposited in the SBI Maharanieta branch.

17. I submit that, the Hon'ble National Green Tribunal has constituted a 5 Member Committee with 1. Justice B. Seshasayana Reddy, Former Judge, A.P. High Court; 2. Prof. Ch V Rama Chandra Murthy, Former Vice Chancellor, Andhra University, Vizag; 3. Professor Pulipati King, Head of Chemical Engineering Department, Andhra University, Vizag; 4. Member Secretary, CPCB and 5. Director, CSIR-Indian Institute of Chemical Technology on the leakage of styrene gas from the LG Polymers India Pvt. Ltd. In addition to the above, the Central Government as well as State Government have appointed various committees to probe into the mishap of styrene leakage incident and after receipt of said reports, a detailed report will be submitted to the Hon'ble High Court of Andhra Pradesh, Amaravathi

In view of the above it is prayed that this Hon'ble Court may be pleased to pass such other order or orders as are deemed fit and appropriate in the circumstances of the case.

Sworn and signed before me
on this, the 19th day of May, 2020
at Vishakhapatnam.


DEPONENT
District Collector
Visakhapatnam

BEFORE ME

SUPERINTENDENT
D-SECTION
COLLECTOR'S OFFICE
VISAKHAPATNAM

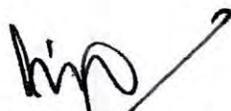
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VERIFICATION

I, V. Vinay Chand, S/o Pavan Kishore, aged 39 years, Occupation: District Collector, Vishakhapatnam, R/o Visakhapatnam, being the deponent, I am well acquainted with the facts of the case, do hereby declare that the above contents contained in the affidavit are true to the best of personal knowledge, information and belief, and are based on legal advice which I believe to be true and correct. Neither suppression of material facts nor any falsehood is stated.

Hence, verified on this, the day of May 2020.

COUNSEL FOR RESPONDENT


DEPONENT
District Collector
Visakhapatnam

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From

S.K.Bhandarkar, IAS,
Principal Secretary
to Government,
Energy, Forest, Environ-
ment, Science and
Technology Department,
A.P. Secretariat,
H Y D E R A B A D.



A.P. Secretariat,
Hyderabad

To
The President,
M/s McDowell & Company Limited,
(Polymers Division)
R.R.Venkatapuram Post,
VISAKHAPATNAM - 5300 29.

Lr.No.5524/ENV/90- Dated.23.11.1990

Sir,

Sub: Environmental Clearance Certificate in favour of
M/s McDowell & Company Limited (Polymers Division)
R.R.Venkatapuram Post, Visakhapatnam - Orders - Issued.

Ref: 1. Commissioner of Industries, Lr.No.412/Desk-4/A2/90,
dt.19.2.1990.

2. Principal Chief Conservator of Forests, Lr.No.14183/
90-F3, dt.22.2.1990.

M/s McDowell & Company Limited, have applied for Environmen-
tal Clearance Certificate at their existing site at R.R.Venkatapuram
Post, Visakhapatnam for increasing the production capacity of
Styrene from 13,989 tonnes to 80,000 tonnes per year and Polystyrene
from 10,156 tonnes to 30,000 tonnes per year.

The Government having carefully examined the matter hereby
accord Environment Clearance at their existing site for increasing
the production capacity of Styrene from 13,989 tonnes to 80,000
tonnes per year and Polystyrene from 10,156 tonnes to 30,000 tonnes
per year, subject to the condition that the industry should take
up suitable plantation in the vacant area besides strictly implemen-
ting the pollution control measures.

Yours faithfully,

H. K. Sankar
23/11/90
for Principal Secretary to Government

23/11

CFE MINUTES
ITEM NO. 12
Dt.29.02.2012

M/S. MATRIX LABORATORIES LIMITED. (UNIT -10), PLOT NO : 86,
JAWAHARLAL NEHRU PHARMACY, PARAWADA (M),
VISAKHAPATNAM - ISSUE OF CFE - REG.

The representatives of the project proponent attended the meeting and made a presentation about the project proposal. The proponent informed that feed water for the boiler passes through the RO and the permeate will be feed to the boiler, hence the TDS levels in the boiler feed water will be very less and the corresponding boiler blow down is considered as LTDS (<12,000 mg/l). After detailed discussions, the committee recommends for grant of CFE subject to submission of justification in this regard.

CFE MINUTES
ITEM NO. 13
Dt.29.02.2012

M/S. MAHINDRA SATYAM COMPUTER SERVICES LIMITED,
SATYAM CITY CENTRE, SY. NO. 44/P, RESAPUVANIPALEM,
VISAKHAPATNAM - ISSUE OF CFE - REG.

The representatives of the project proponent attended the meeting and made a presentation about the project proposal. After detailed discussions, the committee recommends for grant of CFE.

CFE MINUTES
ITEM NO. 14
Dt.29.02.2012

M/S. PHARMAZELL (VIZAG) PVT. LTD., (EXPANSION) PLOT NO.
115, JAWAHARLAL NEHRU PHARMA CITY, PARAWADA,
VISAKHAPATNAM DISTRICT - ISSUE OF CFE FOR EXPANSION -
REG

The representatives of the project proponent attended the meeting and made a presentation about the project proposal. The proponent informed that they have installed electro - chemical reduction process in the manufacture of 5-Amino Salicylic Acid, hence there is no generation of H₂S gas. After detailed discussions, the committee recommends for grant of CFE for expansion.

CFE MINUTES
ITEM NO. 15
Dt.29.02.2012

M/S. MYLAN LABORATORIES LIMITED (FORMERLY M/S. MATRIX
LABORATORIES LIMITED) (UNIT-VIII), G. CHODAVARAM (V),
PUSAPATIREGA (M), VIZIANAGARAM DISTRICT - ISSUE OF CFE
FOR CHANGE OF PRODUCT MIX - REG

The representatives of the project proponent attended the meeting and made a presentation about the project proposal. After detailed discussions, the committee recommended for grant of CFE for change of product mix for the permitted loads only.

CFE MINUTES
ITEM NO. 16
Dt.29.02.2012

M/S. L.G. POLYMERS (I) PVT. LTD., R.R. VENKATAPURAM,
VISAKHAPATNAM - ISSUE OF CFE (EXPANSION) - REG.

The representatives of the project proponent attended the meeting. The committee observed that the proposed activity comes under the purview of EIA notification,2006 which requires prior E.C from MOE&F, GOI. The committee directed the proponent to obtain E.C. and then approach the Board for CFE.

CFE MINUTES
ITEM NO. 17
Dt.29.02.2012

M/S.SATYADEVA PHARMACEUTICALS PVT LTD., UNIT-II, PLOT
NO.21,22,23,24,25 & 26, PHASE-II, IDA, PASHAMAILARAM,
PATANCHERU(M), MEDAK DISTRICT - ISSUE OF CFE - REG.

Deferred for next meeting.

JCEE (CFE)

L.A

Dr. K. Lakshminarayana
CFE Member

L.A

Dr. G.V. Krishna Rao
CFE Member

Dr. V.V. Narayana Reddy,
CFE Member

Member Secretary

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ANNEXURE - V

ANDHRA PRADESH POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN, A - 3, INDUSTRIAL ESTATE,
SANATHNAGAR, HYDERABAD - 500 018

381
mjs PJR → MR PVR Prase

Phone: 23887500
Fax: 040 - 23815631
Grams : Kalushya Nivarana
Website :www.appcb.ap.nic.in

REGD.POST WITH ACK.DUE

Lr. No. APPCB/VSP/VSP/109/CFE/HO/2012

Dt.07 .03.2012

To,
M/s. L.G. Polymers (I) Pvt. Ltd.,
R.R. Venkatapuram,
Visakhapatnam

Sir,

Sub: PCB - CFE - **M/s. L.G. Polymers (I) Pvt. Ltd., R.R. Venkatapuram, Visakhapatnam district** - Application for CFE for expansion - Decision of the Board - Reg.

Ref: 1) Industry's CFE application received through SWCC on 9.12.2011 and Addl. Information received on 20.01.2012.
2) R.O's inspection report dt. 28.01.2012
3) CFE Committee meeting held on 29.12.2012

The Board is in receipt of the application submitted by the industry vide reference 1st cited, seeking CFE of the Board for expansion of Expandable Polystyrene within the existing plant premises located at R.R. Venkatapuram, Visakhapatnam with additional investment of Rs. 14.0 crores.

The issue was placed in the CFE Committee meeting held on 29.02.2012. The representatives of the project proponent attended the meeting. The committee observed that the proposed activity comes under the purview of EIA notification,2006 which requires prior E.C from MOE&F, GOI. The committee directed the proponent to obtain E.C. and then approach the Board for CFE.

In view of the above, the industry is requested to obtain E.C. and then approach the Board for CFE for expansion.

No expansion or developmental work shall be carried out without obtaining Consent for Establishment (CFE) as per the notification dt. 23.12.1996 and 30.04.1999 of the Board.

Yours faithfully,

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JOINT CHIEF ENVIRONMENTAL ENGINEER(CFE)

ANNEXURE - W

Dt : 21.03.2012

To
Joint Chief Environmental Engineer (CFE),
Board Office,
Andhra Pradesh Pollution Control Board,
Hyderabad.

Dear Sir,

Sub: M/s. L.G. Polymers (I) Pvt. Lt., RR. Venkatapuram, Visakhapatnam – applicability of EIA Notification'2006 for de-bottlenecking & increase of the production – Clarification Submitted – Reg.

Ref: Your Lr No.:APPCB/VSP/VSP/109/CFE/HO/2012 dt 07.03.2012

LG is the largest South Korean company headquartered in the LG Twin Towers in Seoul. LG produces electronics, chemicals, and telecommunications products and operates subsidiaries like LG Electronics, LG Display, LG Telecom .
LG Polymers India Ltd is a subsidiary of LG Chemicals, Korea.

LG Polymers India developed extensive green belt covering 43 % of total area. We are having total area of 215 acres of land. At present our green belt was spread in an area of 91 acres. In this year it is planned to develop further in an area of 34 acres.

Presently, we are manufacturing plastic raw materials i.e. Polystyrene and Polystyrene –Expandable through Polymerization process by using Styrene Monomer imported from Singapore & Saudi Arabia.

Earlier Process:

We have established our earlier facility, during (1961 ~ '99), we used to manufacture Styrene monomer (through Alkylation's process from Ethyl alcohol & Benzene) in our Factory for making Polystyrene. Ethyl alcohol was manufactured in our company and Benzene was procured from IOCL and Steel Plant.

Since the manufacture of Styrene monomer was not viable it was discontinued and the plant was totally **dismantled in the year 2002.**

- (a) The photos of the Styrene plant while it was **in operation** is annexed as (Styrene plant before dismantling – 1, 2, 3) and

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- (b) The photos of the (Styrene plant area **after dismantling** is attached as Styrene plant after dismantling – 4, 5). This has been subsequently developed in to **Green belt area**.

Ethyl Alcohol was produced by fermentation of Molasses (obtained from Sugar Industry) in our Distillery unit. This Distillery unit also was totally **dismantled in the year 2002**. This plant area is now being used for storage of our finished product Polystyrene. Photograph attached. (**Product storage area** – Photo 6)

Due to closure of above two plants, we have also **stopped and dismantled our 45 Tons/hr Fluidized bed coal fired boiler, and three Furnace oil fired boilers each of 12 Tons/hr capacity**. Presently we are running a very small boiler of 5 Ton/hr capacity for our polymer production plants only.

From 1999 onwards, we are continuing our polystyrene production by importing styrene monomer.

Our finished products, i.e. Polystyrene, mainly goes into white goods applications, like TV, Refrigerator, washing machine etc and Expandable Polystyrene used in packaging and Insulation applications.

Present unit operation in our industry involves only manufacture of polystyrene i.e a simple conversion of styrene monomer into polymer by exothermic reaction which is not classifiable as petrochemical manufacturing process.

Sir, as per the EIA Notification'2006 Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes) are covered. But our process is only polymerization of the Styrene molecule. It does not attract petrochemical based processing. At the same time, manufacture of Styrene, which is our basic raw material, comes under petrochemical based processing.

Our process operations are completely different from the Petrochemical industry and entire process operations are in closed system. We do not generate any process emissions. Our process effluent water is well treated in the ETP and meeting the discharge standards. We have developed 91 acres of thick green belt by utilizing the treated process waste water. Now we have adopted the recycling techniques and recycling 32% of our effluent back into process.

Sir, also as per our manufacturing programme/license, we are only "**Polymer manufacturers**" and manufacture only polymer products i.e. polystyrene and expandable polystyrene. Polymer manufacture is not listed out in the schedule EIA 2006, needing MOEF clearance.

Even as per International convention of Harmonized system of nomenclature (HSN) developed by world customs organization (WCO) and implemented by Indian customs and excise in 1986, product classification is as under.

Product	Classification/Heading description
Polystyrene, Polystyrene expandable	39031100 (Plastics-Polymers)
Styrene Monomer (raw material for PS/EPS)	29025000 (Organic chemicals)
Petroleum products like MS, HSD etc	27101930 (Petroleum oils etc)

Sir, from the above it is very much clear that our finished products are not classifiable as petroleum / petrochemical products.(copies of relevant tariff classifications are enclosed for your ready reference)

Also structurally a polymer is made up of many molecules, whereas the petrochemicals are not. Our polystyrene has a molecular weight of 2,00,000 to 3,00,000.

Even as per IEM (Industrial entrepreneurs Memorandum) NIC code for polymers of styrene is 302.9 and for petroleum products is 314, 316. This clearly confirms that our manufacturing activity is not related to petrochemicals. We have also submitted the copies of IEM in our application, ref no 3097/SIA/IMO/2011 dt 03.10.2011.and is annexed for your ready reference.

302.9 Manufacture of other plastics in primary forms n.e.c. (this class includes manufacture of the following in primary forms: polymers of ethylene, propylene or other olefins; polymers of styrene, vinyl chloride or other halogenated olefins; polymers of vinyl acetate or other vinyl esters; acrylic polymers; poly-acetals, other polyethers and epoxide resins; polycarbonate alkyd resins, polyallylsilicones, not chemically defined; petroleum resins; polyterpenes and ion-exchangers based on the plastic materials classified in this group)

314 Manufacture of refined petroleum products (this group includes production of liquids of gaseous fuels, illuminating oils, lubricating oils or greases or other products obtained from crude petroleum or their fractionation productions, Liquification of natural gas is classified in group 111 and bottling of natural gas or liquified petroleum gas is classified in group 315)

316 Manufacture of refined petroleum products not elsewhere classified (this group includes Manufacture of variety of products extracted/obtained from the products or residues of petroleum refining).

Based on the above classification of products, our polymer product does not come under petrochemical manufacture/processing.

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Our parent company LG Chemical Korea which is one of the world's largest petrochemical and polymer products manufacturer also has confirmed that the Visakhapatnam operations are only Polymer manufacturing operations and not any petrochemical manufacturing operations.

Therefore, by all the above many classifications, the "polymer" is classified separately and therefore **LGPI is only a "Polymer manufacturing" unit, but not a "petrochemical manufacturing" unit.**

We also understand that recently in 2011 a Expandable Polymer manufacturing unit M/S Rattan Polymers in Faridabad near Delhi has gone ahead with its production operations by obtaining NOC / CFE from the state PCB.(without any EC requirements from MOEF)

In view of the global competition it is essential to expand our industry to sustain in the market competition and to safe guard employee welfare.

In the recent past, for our existing products (Polystyrene and Expandable Polystyrene), capacity up proposals, **we have obtained the CFE (5/2010) and CFO(12/2011) from APPCB, without EC requirements from MOEF.** Accordingly we are now having Consent for Operation No: APPCB / VSP / VSP / 109 / HO / 2011 / 3103, dated: 17th Dec 2011 for manufacture of 105 KTA of Polymer (Polystyrene & Expandable Polystyrene) and now wish to increase capacity to 122 KTA.

We also wish to state that, even after the proposed capacity increase, there will not be any increase in the air emissions as we propose to utilize the process heat of the exothermic reaction (as explained in our report). The water discharge will be treated by the ETP system and the treated water will be utilized for irrigation within the factory as we have a large green belt in 91 acres.

In addition to the above, we wish to confirm that our de-bottlenecking do not increase any pollution load to the environment. As our de-bottlenecking do not require any additional boiler and entire process is in closed loop. There will not be any additional emissions due increase of production.

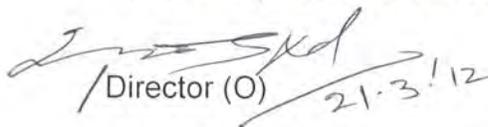
With regard to the waste water generation, we have developed in-house process for utilization of the waste water generated from EPS manufacturing reactor without discharging into ETP. By installation of the Dewatering wet screen system in the process area we will be able to recycle 32 % of the waste water stream from the process reactors.

We now request you to kindly consider our CFE application for increasing capacity of polystyrene and expandable polystyrene and issue us the CFE at the earliest to enable us go ahead with our debottlenecking programme for increasing the plant capacity as per the following.

1. Presently we are importing the raw material STYRENE MONOMER from overseas and we have discarded our Styrene manufacturing unit wayback during 2002...Photographs enclosed
2. The process of manufacturing EPS resin and Polystyrene are based on polymerization of styrene and doesnot involve any petrochemical process.
3. For our existing plant we have received CFE for expansion vide CFE order nos-APPCB/VSP/VSP/109/CFE/HO/2009-627 dt 31-05-2010 without considering EC.
4. As per NIC codes our product is considered under 302.9 (Manufacturing of plastics),where as other petroleum products are considered under 314 and 316.
5. For producing similar product one of our competator M/S Rattan Polymers in Faridabad near Delhi has gone ahead with its production operations by obtaining NOC / CFE from the state PCB.(without any EC requirements from MOEF) -Copy enclosed.

Thanking you,
Yours faithfully

For LG Polymers India Pvt LTD


/Director (O) 21.3.12

CC: RO APPCB Vizag

NIC Codes of FEMA Ready Reckoner

NIC code

Description

Aux-~~SI~~

MANUFACTURING

nic_code	description
302.9	Manufacture of other plastics in primary forms n.e.c. (this class includes manufacture of the following in primary forms: polymers of ethylene, propylene or other olefins; polymers of styrene, vinyl chloride or other halogenated olefins; polymers of vinyl acetate or other vinyl esters; acrylic polymers; poly-acetals, other polyethers and epoxide resins; polycarbonates alkyd resins, polyallylsilicones, not chemically defined; petroleum resins; polyterpenes and ion-exchangers based on the plastic materials classified in this group)
314	Manufacture of refined petroleum products (this group includes production of liquids of gaseous fuels, illuminating oils, lubricating oils or greases or other products obtained from crude petroleum or their fractionation productions, Liquefaction of natural gas is classified in group 111 and bottling of natural gas or liquified petroleum gas is classified in group 315)
315	Bottling of natural gas or liquified petroleum gas.
316	Manufacture of refined petroleum products not elsewhere classified (this group includes Manufacture of variety of products extracted/obtained from the products or residues of petroleum refining).

ELECTRICITY, GAS AND WATER

nic_code	description
400	Generation and transmission of electric energy
439	Generation and distribution of other non-conventional energy n.e.c.

CONSTRUCTION

500	Construction and maintenance of buildings
500.1	Construction of residential buildings including additions and alterations in the existing ones

WHOLESALE AND RETAIL TRADE & RESTAURANTS AND HOTELS

600	Wholesale trade in cereals and pulses
600.1	Procurement agencies dealing primarily in cereals and pulses
600.2	Wholesale trade in cereals and pulses other than by procurement agencies.
640	Commission agents dealing in agricultural raw materials, live animals, food, beverages, intoxicants and textiles

TRANSPORT, STORAGE AND COMMUNICATION SERVICES

700	Railway transport
-----	-------------------

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SL 30 50 NT 2/08 dt 1/3/08

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- (b) where there is no sub-heading named "Other" in the same series :
- (1) polymers are to be classified in the sub-heading covering polymers of that monomer unit which predominates by weight over every other single comonomer unit. For this purpose, constituent monomer units of polymers falling in the same sub-heading shall be taken together. Only the constituent comonomer units of the polymers in the series under consideration are to be compared;
 - (2) chemically modified polymers are to be classified in the sub-heading appropriate to the unmodified polymer.

Polymer blends are to be classified in the same sub-heading as polymers of the same monomer units in the same proportions.

2. For the purposes of sub-heading 3920 43, the term "plasticisers" includes secondary plasticisers.

Tariff Item	Description of goods	Unit	Rate of duty [#]
(1)	(2)	(3)	(4)
3901	I. PRIMARY FORMS		
3901 10	Polymers of ethylene, in primary forms		
3901 10 10	- Polyethylene having a specific gravity of less than 0.94 :		
3901 10 10	--- Linear low density polyethylene (LLDPE)	kg.	8% [†]
3901 10 90	--- Other	kg.	8% [†]
3901 20 00	- Polyethylene having a specific gravity of 0.94 or more	kg.	8% [†]
3901 30 00	- Ethylene-vinyl acetate copolymers	kg.	8% [†]
3901 90	- Other :		
3901 90 10	--- Linear medium density polyethylene (LMDPE)	kg.	8% [†]
3901 90 90	--- Other	kg.	8% [†]
3902	Polymers of propylene or of other olefins, in primary forms		
3902 10 00	- Polypropylene	kg.	8% [†]
3902 20 00	- Poly iso butylene	kg.	8% [†]
3902 30 00	- Propylene copolymers	kg.	8% [†]
3902 90 00	- Other	kg.	8% [†]
3903	Polymers of styrene, in primary forms		
3903 11 00	- Polystyrene :		
3903 19	--- Expansible	kg.	8% [†]
3903 19 10	--- Other :		
3903 19 10	--- Moulding Powder	kg.	8% [†]
3903 19 90	--- Other	kg.	8% [†]
3903 20 00	- Styrene-acrylonitrile (SAN) copolymers	kg.	8% [†]
3903 30 00	- Acrylonitrile-butadiene-styrene (ABS) copolymers	kg.	8% [†]
3903 90 10	- Other :		
3903 90 10	--- Copolymers, solely of styrene with allyl alcohol, of any acetyl value of 175 or more	kg.	8% [†]
3903 90 20	--- Brominated polystyrene, containing by weight 58% or more but not more than 71% of bromine, in one of the forms mentioned in Note 6(b) to this Chapter	kg.	8% [†]
3903 90 90	--- Other	kg.	8% [†]
3904	Polymers of vinyl chloride or of other Halogenated Olefins, in primary forms		
3904 00	- Poly (vinyl chloride), not mixed with any other substances :		
3904 10 10	--- Binders for pigments	kg.	8% [†]
3904 10 90	--- Other	kg.	8% [†]
3904 21	- Other poly (vinyl chloride) :		
3904 21 10	--- Non-plasticised :		
3904 21 10	--- Poly (vinyl chloride) resins	kg.	8% [†]
3904 21 90	--- Other	kg.	8% [†]
3904 22	--- Plasticised :		
3904 22 10	--- Poly (vinyl chloride) (PVC) Resins (emulsion grade)	kg.	8% [†]
3904 22 90	--- Other	kg.	8% [†]
3904 30	- Vinyl chloride-vinyl acetate copolymers :		
3904 30 10	--- Poly (vinyl derivatives)	kg.	8% [†]

For "Education Cess" and "Secondary & Higher Education Cess" - See Appendix I and Appendix II respectively.
 † Rate of duty reduced to 8% by Notification No. 4/2009-C.E., dated 24-2-2009.
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atoms of hydrogen, oxygen or nitrogen, atoms of other non-metals or of metals (such as sulphur, arsenic or lead) directly linked to carbon atoms.

Heading 2930 (organo-sulphur compounds) and heading 2931 (other organo-inorganic compounds) do not include sulphonated or halogenated derivatives (including compound derivatives) which, apart from hydrogen, oxygen and nitrogen, only have directly linked to carbon the atoms of sulphur or of a halogen which give them their nature of sulphonated or halogenated derivatives (or compound derivatives).

7. Headings 2932, 2933 and 2934 do not include epoxides with a three-membered ring, ketone peroxides, cyclic polymers of aldehydes or of thioaldehydes anhydrides of polybasic carboxylic acids, cyclic esters of polyhydric alcohols or phenols with polybasic acids or imides of polybasic acids.

These provisions apply only when the ring-position hetero-atoms are those resulting solely from the cyclising function or functions here listed.

8. For the purpose of heading 2937 :

- (a) the term "hormones" includes hormone-releasing or hormone-stimulating factors, hormone inhibitors and hormone antagonists (anti-hormones);
- (b) the expression "used primarily as hormones" applies not only to hormone derivatives and structural analogues used primarily for their hormonal effect, but also to those derivatives and structural analogues used primarily as intermediates in the synthesis of products of this heading.

9. This Chapter does not cover products containing alcohol, opium, Indian hemp or other narcotic drugs. For the purposes of this Note, "alcohol", "opium", "Indian hemp", "narcotic drugs" and "narcotics" have the meanings assigned to them in section 2 of the Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (16 of 1955).

10. In relation to products of this Chapter, ¹[labelling or relabelling of containers or repacking] from bulk packs to retail packs or the adoption of any other treatment to render the product marketable to the consumer, shall amount to 'manufacture'.

Sub-Heading Notes :

1. Within any one heading of this Chapter, derivatives of a chemical compound (or group of chemical compounds) are to be classified in the same sub-heading as that compound (or group of compounds) provided that they are not more specially covered by any other sub-heading and that there is no residual sub-heading named "other" in the series of sub-headings concerned.

2. Note 3 to this Chapter shall not be applicable to the sub-headings of this Chapter.

Tariff Item	Description of goods	Unit	Rate of duty [#]
(1)	(2)	(3)	(4)
	I. — HYDROCARBONS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES		
2901	Acyclic hydrocarbons		
2901 10 00	- Saturated	kg.	8% [†]
	- Unsaturated :		
2901 21 00	- Ethylene	kg.	8% [†]
2901 22 00	- Propene (propylene)	kg.	8% [†]
2901 23 00	- Butene (butylene) and isomers thereof	kg.	8% [†]
2901 24 00	- Buta-1,3-diene and isoprene	kg.	8% [†]
2901-29	- Other :		
2901 29 10	- Acetylene, whether or not in dissolved condition	kg.	8% [†]
2901 29 20	- Heptene (Heptylene)	kg.	8% [†]
2901 29 90	- Other	kg.	8% [†]
2902	Cyclic hydrocarbons		
	- Cyclanes, cyclenes and cycloterpenes :		
2902 11 00	- Cyclohexane	kg.	8% [†]
2902 19 00	- Other	kg.	8% [†]
2902 20 00	- Benzene	kg.	8% [†]
2902 30 00	- Toluene	kg.	8% [†]
	- Xylenes :		
2902 41 00	- o-Xylene	kg.	8% [†]
2902 42 00	- m-Xylene	kg.	8% [†]
2902 43 00	- p-Xylene	kg.	8% [†]
2902 44 00	- Mixed xylene isomers	kg.	8% [†]
2902 50 00	- Styrene	kg.	8% [†]
2902 60 00	- Ethylbenzene	kg.	8% [†]
2902 70 00	- Cumene	kg.	8% [†]

¹ Substituted by Notification No. 11/2008-C.E. (N.T.), dated 1-3-2008.

[#] For "Education Cess" and "Secondary & Higher Education Cess" - See Appendix I and Appendix II respectively.

[†] Rate of duty reduced to 8% by Notification No. 4/2009-C.E., dated 24-2-2009.

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2902 90
2902 90 10
2902 90 20
2902 90 30
2902 90 40
2902 90 50
2902 90 90
2903
2903 11
2903 11 10
2903 11 20
2903 12 00
2903 13 00
2903 14 00
2903 15 00
2903 19
2903 19 10
2903 19 20
2903 19 90
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2903 46 10

[†] Rate of du
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Chapter 27		Mineral Fuels, Mineral Oils, etc.	459
2707 10 00	- Benzol (benzene)	kg.	14% [†]
2707 20 00	- Toluol (toluene)	kg.	14% [†]
2707 30 00	- Xylol (xylenes)	kg.	14% [†]
2707 40 00	- Naphthelene	kg.	14% [†]
2707 50 00	- Other aromatic hydrocarbon mixtures of which 65% or more by volume (including losses) distils at 250°C by the ASTM D 86 method	kg.	14% [†]
	- Other :		
2707 91 00	- Creosote oils	kg.	14% [†]
2707 99 00	- Other	kg.	14% [†]
2708	Pitch and pitch coke, obtained from coal tar or from other mineral tars		
	- Pitch :		
2708 10	- Obtained by blending with creosote oil or other coal tar distillates	kg.	14% [†]
2708 10 10	- Other	kg.	14% [†]
2708 10 90	- Pitch coke	kg.	14% [†]
2708 20 00	- Pitch coke	kg.	14% [†]
2709 00 00	Petroleum oils and oils obtained from bituminous minerals, crude	kg.	Nil
2710	Petroleum oils and oils obtained from bituminous minerals, other than crude; preparations not elsewhere specified or included, containing by weight 70% or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations; waste oils		
	- Petroleum oils and oils obtained from bituminous minerals (other than crude) and preparations not elsewhere specified or included, containing by weight 70% or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations, other than waste oils :		
	- Light oils and preparations :		
	- Motor Spirit :		
2710 11	- Special boiling point spirits (other than benzene, toluol) with nominal boiling point range 55-115°C	kg.	16% + Rs. 15.00 per litre
2710 11 11	- Special boiling point spirits (other than benzene, toluol) with nominal boiling point range 55-115°C	kg.	16% + Rs. 15.00 per litre
2710 11 12	- Special boiling point spirits (other than benzene, benzol, toluene and toluol) with nominal boiling point range 63-70°C	kg.	16% + Rs. 15.00 per litre
2710 11 13	- Other special boiling point spirits (other than benzene, benzol toluene and toluol)	kg.	16% + Rs. 15.00 per litre
2710 11 19	- Other	kg.	ψ[14% + Rs. 15.00 per litre]
2710 11 20	- Natural gasoline liquid (NGL)	kg.	ψ[14% + Rs. 15.00 per litre]
2710 11 90	- Other	kg.	ψ[14% + Rs. 15.00 per litre]
2710 19	- Other :		
2710 19 10	- Superior kerosene oil (SKO)	kg.	14% [†]
2710 19 20	- Aviation turbine fuel (ATF)	kg.	14% [†]
2710 19 30	- High speed diesel (HSD)	kg.	ψ[14% + Rs. 5.00 per litre]
2710 19 40	- Light diesel oil (LDO)	kg.	ψ[14% + Rs. 5.00 per litre]
2710 19 50	- Fuel oil	kg.	14% [†]
2710 19 60	- Base oil	kg.	14% [†]
2710 19 70	- Jute batching oil and textile oil	kg.	14% [†]
2710 19 80	- Lubricating oil	kg.	14% [†]
2710 19 90	- Other	kg.	14% [†]
	- Waste oil :		

† Rate of duty reduced to 14% by Notification No. 2/2008-C.E., dated 1-3-2008.

¶ National Calamity Contingent Duty - For levy & exemptions, see Appendix X.

1 For Additional Duties of Excise on Motor Spirit (Petrol) - See Appendix VI.

ψ Rate of duty reduced by Notification No. 2/2008-C.E., dated 1-3-2008.

भारत सरकार
Government of India

Ahx-3B
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Contact Address in State: चाण्डिगढ़ और उद्योग मंत्रालय Page No : 1
M. Purushotham Reddy
Joint Director (CDCC) Ministry of Commerce & Industry
Commissionerate of Ind. औद्योगिक सहायता सचिवालय
Govt. of A.P. Secretariat for Industrial Assistance
Chirag Lane उद्यमिता सहायता एकक
Abids, Hyderabad Entrepreneurial Assistance Unit
Telephone : 202131
Telegraph : DINCOM
Fax : 201335

संख्या.....
No. 2350/SIA/IMO/2001

प्राप्ति सूचना
ACKNOWLEDGEMENT

नई दिल्ली, दिनांक
New Delhi, Date

एतद्वारा निम्नलिखित का विनिर्माण करने संबंधी आपका ज्ञापन प्राप्त होने की सूचना दी जाती है:-
The receipt of your memorandum for the manufacture of following is hereby acknowledged:-

15/10/2001

Item Code

Proposed Item: POLYSTYRENE
of Manufacture

falling under NIC - broad description
MANUFACTURE OF OTHER PLASTICS IN PRIMARY FORMS N.E.C. (THIS CLASS
INCLUDES MANUFACTURE OF THE FOLLOWING IN PRIMARY FORMS; POLYMERS
OF ETHYLENE PROPYLENE OR OTHER OLEFINS; POLYMERS OF
STYRENE, VINYL CHLORIDES OR OTHER HALOGENATED OLEFINS; POLYMERS
Proposed Capacity : 50000.00 MT
Existing Capacity : 70000.00 MT
Total Capacity : 120000.00 MT
After Expansion

***** No More Items *****

This acknowledgement is subject to the provisions of Press Note No 6 dated 29th July 1993 and Press Note No 17 dated 28th November 1997 regarding the significance, implications and legal status of filing of Industrial Entrepreneur Memorandum

M/S LG POLYMERS INDIA PVT LTD
VISAKHAPATNAM - 530020
ANDHRA PRADESH


D. SHARMA
आवर सचिव
Aver Secretary

स्थापना-स्थल

located at

स्थान/कस्बा

Place/Town

तहसील/ताल्लुक

Tehsil/Taluk

जिला

District

राज्य

State

VISAKHAPATNAM

VISAKHAPATNAM

ANDHRA PRADESH

M10120125

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Government of India

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Telephone : 23441626
Telegraph : DINCOM
Fax : 23441611

वाणिज्य और उद्योग मंत्रालय

Page No : 1

Ministry of Commerce & Industry

REGISTERED POST

औद्योगिक सहायता सचिवालय

Secretariat for Industrial Assistance

जन सम्पर्क एवम् शिकायत अनुभाग

Public Relation & Complaints Section

प्राप्ति सूचना

नई दिल्ली, दिनांक

संख्या.....

No. 3097/SIA/IMO/2011

ACKNOWLEDGEMENT

New Delhi, Date

एतद्वारा निम्नलिखित का विनिर्माण करने संबंधी आपका ज्ञापन प्राप्त होने की सूचना दी जाती है:-

The receipt of your memorandum for the manufacture of following is hereby acknowledged:-

03/10/2011

Item Code

Proposed Item: EXPANDABLE POLYSTYRENE
of Manufacture

falling under NIC - broad description

3029

MANUFACTURE OF OTHER PLASTICS IN PRIMARY FORMS N.E.C. (THIS CLASS INCLUDES MANUFACTURE OF THE FOLLOWING IN PRIMARY FORMS; POLYMERS OF ETHYLENE PROPYLENE OR OTHER OLEFINS; POLYMERS OF STYRENE, VINYL CHLORIDES OR OTHER HALOGENATED OLEFINS; POLYMERS

Proposed Capacity : 10000.00 MT

Existing Capacity : 25000.00 MT

Total Capacity : 35000.00 MT

After Expansion

***** No More Items *****

This acknowledgement is subject to the provisions of Press Note No 6 dated 29th July 1993 and Press Note No 17 dated 28th November 1997 regarding the significance, implications and legal status of filing of Industrial Entrepreneur Memorandum

M/S LG POLYMERS INDIA PVT.LTD.,
RR VENKATAPURAM POST
VISAKHAPATNAM
ANDHRA PRADESH 530 029

के० के० गुड्डे
K. K. GUITE
अवर सचिव
Under Secretary

स्थापना-स्थल

Located at

स्थान/कस्बा

Place/Town

तहसील/तल्लुक

Tehsil/Taluk

जिला

District

राज्य

State

RR VENKATAPURAM
VISAKHAPATNAM

VISAKHAPATNAM

ANDHRA PRADESH

M10120357

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CFE MINUTES
ITEM NO. 17
Dt.17.04.2012

M/S. L.G. POLYMERS (I) PVT. LTD., R.R. VENKATAPURAM,
VISAKHAPATNAM - ISSUE OF CFE (EXP) – REG.

The committee observed the following:

- 1) Presently, the industry is importing the raw material Styrene Monomer from overseas and they have dismantled their Styrene manufacturing unit wayback during 2002.
- 2) The process of manufacturing EPS resin and polystyrene are based on polymerization of styrene
- 3) For producing similar product , one of their competitor M/s. Rattan Polymers in Faridabad near Delhi has gone ahead with the production operations by obtaining NOC / CFE of the Haryana state PCB (without any EC requirements from MOE&F).

After detailed discussions, the committee recommends for grant of CFE for expansion with the following condition:

- 1) The industry shall allocate a minimum of 1% of its expansion project cost towards CSR activities during construction period and 0.20 % of the project cost per year during operational period for 10 years.

CFE MINUTES
ITEM NO. 18
Dt.17.04.2012

M/S. COROMANDEL INTERNATIONAL LTD., VAKALAPUDI (V),
BEACH ROAD, KAKINADA, EAST GODAVARI DISTRICT - ISSUE
OF CFE OF INSTALLATION OF 12 TPH BOILER – REG.

The representatives of the project proponent attended the meeting and made a presentation about the project proposal. The industry informed that they have already dismantled the 2 x 1 TPH boilers and proposed to use the existing 7 TPH boiler as standby. The industry further informed that the greenbelt will be developed by the end of December,2012. The committee observed that the proposal is only for installation of 12 TPH boiler without increase in production capacity.

After detailed discussions, the committee recommends for grant of CFE for installation of 12 TPH boiler.

- 1) The industry shall allocate a minimum of 0.20 % of the project cost per year during operational period for 10 years towards CSR activities.

CFE MINUTES
ITEM NO. 19
Dt.17.04.2012

M/S. CRUX BIOTECH INDIA PVT. LTD., PEDDAVARAM (V),
NANDIGAMA (M), KRISHNA DISTRICT - ISSUE OF CFE - REG

The representatives of the project proponent attended the meeting and made a presentation about the project proposal. The committee observed that the industry is yet to obtain E.C. from MOE&F, GOI. The committee recommended that the industry shall approach the Board after obtaining E.C. along with clarifications on the points mentioned in the agenda notes.

JCEE (CFE)

L.A
Dr. G.V. Krishna Rao
CFE Member

Dr. V.V. Narayana Reddy,
CFE Member

Dr. K. Lakshminarayana
CFE Member

Member Secretary

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17 MAY 2012

ANNEXURE - Y

ANDHRA PRADESH POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN, A - 3, INDUSTRIAL ESTATE,
SANATHNAGAR, HYDERABAD - 500 018

Phone: 23887500
 Fax: 040 - 23815631
 Grams : Kalushya Nivarana
 Website : www.appcb.ap.nic.in

REGD.POST WITH ACK.DUE**CONSENT ORDER FOR ESTABLISHMENT****Order No.APPCB/VSP/VSP/109/CFE/HO/2012**

458

Dt.28 .04.2012

Sub: PCB - CFE - M/s. L.G. Polymers India Pvt. Ltd., Sy.No.29-45,80/1, 80/2, R.R. Venkatapuram, Visakhapatnam - Consent for Establishment of the Board for expansion under Sec.25 of Water (P & C of P) Act, 1974 and Under Sec.21 of Air (P&C of P) Act, 1981 - Issued - Reg.

Ref: 1) Industry's CFE application received through SWCC on 9.12.2011 and Addl. Information received on 20.01.2012.
 2) R.O's inspection report dt. 28.01.2012
 3) CFE Committee meeting held on 29.02.2012
 4) T.O. Ir.dt. 07.03.2012
 5) Industry's Ir.dt. 21.03.2012
 6) CFE Committee meetings held on 03.04.2012 & 17.04.2012

1. In the reference 1st cited, an application was submitted to the Board seeking Consent for Establishment (CFE) for expansion to produce the following products with installed capacities as mentioned below with an additional investment of Rs. 14.0 crores.

Sl. No.	Products	Existing capacity	Proposed capacity	Total capacity
1	Polystyrene	235 TPD (Limited to 80,000 TPA)	18 TPD (7000 TPA)	253 TPD (Limited to 87,000 TPA)
2	Expandable Polystyrene	71.5 TPD (Limited to 25,000 TPA)	28.5 TPD (10,000 TPA)	100 TPD (35,000 TPA)

2. As per the application, the above expansion activity is to be located within the existing plant premises located at Sy.No.29-45, 80/1, 80/2, R.R. Venkatapuram, Visakhapatnam district in an area of 219 Acres
3. The above site was inspected by the Asst. Environmental Engineer-1, Regional office, Visakhapatnam, A.P Pollution Control Board on 18.01.2012 and observed that the site is surrounded by

North : Vacant Land
South : Railway Track
East : Green Belt of 30 Acres
West : Gedda,

4. The Board, after careful scrutiny of the application and verification report of Regional Officer, hereby issues **CONSENT FOR ESTABLISHMENT FOR EXPANSION** to your unit Under Section 25 of Water (Prevention & Control of Pollution) Act 1974 and Section 21 of Air (Prevention & Control of Pollution) Act, 1981 and the rules made there under. **This order is issued to manufacture the products as mentioned at para (1) only.**

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2. The maximum Waste Water Generation (KLD) shall not exceed the following after expansion:

Sl. No.	Source	Quantity
1	Process	160 KLD
2	Cooling blow down	43 KLD
3	Boiler blowdown	10 KLD
4	Domestic	40 KLD
	Total	253 KLD

Treatment & Disposal after expansion:

Source of Effluent	Treatment	Mode of final disposal
Trade Effluent:	Bar screen chamber, equalization tank, neutralization tank, clarifier, oil skimmer, sludge drying beds, biological treatment and an additional clarifier.	On land for plantation
Domestic	-	Septic tank followed by soak pit

3. The existing Effluent Treatment Plant (ETP) shall be used after expansion also. All the units of the ETP shall be impervious to prevent ground water pollution.
4. The effluents shall be treated to the on land for irrigation standards, stipulated under Environment (Protection) Rules, 1986, notified and published by Ministry of Environment and Forests, Government of India as specified in Schedule VI vide G.S.R.422 (E), dt.19.05.1993 and its amendments thereof, and additional standards / conditions stipulated by APPCB.
5. Separate meters with necessary pipe-line shall be provided for assessing the quantity of water used for each of the purposes mentioned below.
- Industrial cooling, boiler feed.
 - Domestic purposes.
 - Processing, whereby water gets polluted and pollutants are easily bio-degradable.
 - Processing, whereby water gets polluted and the pollutants are not easily bio-degradable.
6. The industry shall install flow meters for quantify the treated effluents utilization for each purpose.

Air:

7. There shall not be any additional installation of GPPS oil fired heater / HIPS Oil fired heater / Oil fired boiler/ D.G. set or any other air pollution source result in from proposed expansion. The existing air pollution control equipment shall be operated effectively to ensure compliance of stipulated emission standards.
8. Continuous online stack monitoring facilities shall be provided to all the stacks and proper control equipment shall be provided to control the emissions.
9. The proponent shall provide interlocking system between air pollution control equipments / continuous online monitoring system and raw material feeding system so that the feeding of raw material would be stopped automatically incase the air pollution control equipment fails/ emission levels exceed the prescribed standards.
10. **The proponent shall ensure compliance of the National Ambient Air quality standards notified by MoE&F, Gol vide notification No. GSR 826(E), dated. 16.11.2009 during construction and regular operational phase of the project.**
11. A sampling port with removable dummy of not less than 15 cm diameter shall be provided in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc. A platform with suitable ladder shall be provided below 1 meter of sampling port to accommodate three persons with instruments. A 15 AMP 250 V plug point shall be provided on the platform.
12. The generator shall be installed in a closed area with a silencer and suitable noise absorption systems. The ambient noise level shall not exceed 75 dB(A) during day time and 70 dB(A) during night time.

Solid Waste:

13. The proponent shall comply with the following after expansion

Sl. No.	Solid Waste generated	Quantity	Method of Disposal
1.	ETP Sludge	41 TPA	Shall be disposed to TSDF for secured landfilling.
2.	Used Oils	1.4 KLPA	Shall be disposed to authorized agencies
3.	Container & Container liners of Hazardous Waste & Chemicals	1.4 TPA	Shall be disposed to authorized agencies

14. Container & Container liners shall be detoxified at the specified covered platform with dyke walls and the wash wastewater shall be routed to low TDS collection tank.
15. The industry shall place the chemical drums and / or any drums in the concrete platform only. The Platform shall be provided with sufficient dyke wall and effluent collection system.

16. The following rules and regulations notified by the MoE&F, Gol shall be implemented.
- Hazardous waste (Management, Handling and Transboundary Movement) Rules, 2008.
 - Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989.
 - Batteries (Management & Handling) Rules, 2010.

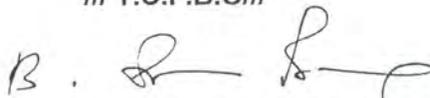
Other Conditions:

17. The industry shall allocate a minimum of 1% of its expansion project cost of Rs. 14.0 crores towards CSR activities during construction period and 0.20 % of the project cost per year during operational period for 10 years.
18. Existing green belt shall be augmented to cover minimum area of 33% of total area. Existing Green belt shall not be distributed in the proposed expansion activity.
19. Ambient Air quality shall be regularly monitored at the industry premises and in the predominant wind direction. The location of continuous monitoring stations shall be fixed in consultation with concerned R.O., APPCB.
20. The proponent shall ensure that there shall not be any change in the process technology, source of raw material and scope of working without prior approval from the Board.
21. The proponent shall comply with all the directions issued by the Board from time to time.
22. Concealing the factual data or submission of false information/ fabricated data and failure to comply with any of the conditions mentioned in this order may result in withdrawal of this order and attract action under the provisions of relevant pollution control Acts.
23. The Board reserves its right to modify above conditions or stipulate any additional conditions including revocation of this order in the interest of environment protection.

Sd/-
MEMBER SECRETARY

To
M/s. L.G. Polymers India Pvt. Ltd.,
R.R. Venkatapuram,
Visakhapatnam

/// T.C.F.B.O///



JOINT CHIEF ENVIRONMENTAL ENGINEER(CFE)

B.S.S.
30/4

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S.No.	Date of Issue	Description of order	Products Permitted	Validity upto
1.	23.07.1993	Consent to operate (CFO)	Issued to M/s. Hindustan Polymers	31.12.1993
2.	14.05.1997	Renewal of CFO order dt. 23.07.1993	Issued to M/s. Hindustan Polymers	31.12.1998
3.	09.12.1998	CFE (expansion)	Expandable polystyrene – 5000 TPA to 8500 TPA (issued to M/s. LG Polymers India Pvt. Ltd.)	--
4.	16.11.2001	CFE (expansion)	Polystyrene – 160 TPD to 233.3 TPD & Expandable polystyrene – 28.3 TPD to 45.0 TPD (Issued to M/s. LG Polymers India Pvt. Ltd.)	5 Years
5.	08.05.2002	CFO (Separate orders under Water Act & Air Act)	Polystyrene – 233.3 TPD & Expandable polystyrene – 45.0 TPD	31.12.2002
6.	13.02.2003	CFO	Polystyrene – 233.3 TPD & Expandable polystyrene – 45.0	31.12.2003
7.	25.03.2004	CFO	Polystyrene – 235 TPD & Expandable polystyrene – 45.0 TPD	31.12.2006
8.	08.05.2007	CFO	Polystyrene – 235 TPD & Expandable polystyrene – 45.0 TPD	31.12.2007
9.	18.03.2008	CFE for (Change of product mix)	Polystyrene – 235 TPD (Limited to 63000 TPA) & Expandable polystyrene – 45.0 TPD to 65 TPD	5 Years
10.	19.05.2008	CFO	Polystyrene – 235 TPD & Expandable polystyrene – 45.0 TPD (Routine renewal of	31.12.2009

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			CFO order dt. 08.05.2007)	
11.	04.01.2009	Amendment to CFO order dated 19.05.2008	Polystyrene – 235 TPD (Limited to 63000 TPA) & Expandable polystyrene – 65 TPD (Limited to 22000 TPA)	--
12.	31.05.2010	CFE for expansion by increasing No. of working days per annum without increasing the daily production limit)	Polystyrene* - 63000 TPA (235 TPD) to 80000 TPA (235 TPD) & Expandable polystyrene – 22000 TPA (65 TPD) to 25000 TPA (71.5 TPD) *Industry shall limit the per day production capacity of polystyrene to 235 TPD even after present expansion.	5 Years
13.	16.04.2011	CFO	Polystyrene – 235 TPD (Limited to 63000 TPA) & Expandable polystyrene – 65 TPD (Limited to 22000 TPA) (renewal of CFO order dt. 04.01.2009)	31.12.2011
14.	17.12.2011	CFO expansion	Polystyrene – 1700 TPA & Expandable polystyrene – 3,000 TPA (for the capacities mentioned in the CFE expansion order dt. 31.05.2010)	30.06.2012
15.	13.04.2012	CFO	Polystyrene* - 80000 TPA (235 TPD) & expandable polystyrene – 25000 TPA (71.5 TPD) * Industry shall limit the per day production capacity of polystyrene to 235 TPD even after expansion.	31.12.2013

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16.	28.04.2012	CFE expansion	Polystyrene from 235 TPD (Limited to 80000 TPA) to 253 TPD (87,000 TPA) Expandable polystyrene from 71.5 TPD (25,000 TPA) to 100 TPD (35000 TPA)	5 Years
17.	22.05.2013	CFO (expansion)	Polystyrene – 18 TPD (7000 TPA) & Expandable polystyrene – 28.5 TPD (10,000 TPA) (CFO for expanded capacities vide order dt. 28.04.2012)	31.12.2013
18.	07.02.2014	CFE expansion	Polystyrene – 253 TPD (87000 TPA) to 315 TPD (1,10,000 TPA) Expandable polystyrene – 100 TPD (35,000 TPA)	5 Years
19.	06.05.2014	Renewal of CFO order dt. 13.04.2012 & 22.05.2013	Polystyrene – 253 TPD (Limited to 87,000 TPA) & Expandable polystyrene – 100 TPD (35,000 TPA)	31.12.2014
20.	12.11.2014	CFO for expansion of CFE order dt. 07.02.2014	Polystyrene – 62 TPD (Limited to 23000 TPA) Thus total polystyrene = 315 TPD	28.02.2015
21.	25.11.2015	CFO (renewal)	Polystyrene – 315 TPD (Limited to 1,10,000 TPA) & Expandable polystyrene – 100 TPD (35,000 TPA)	31.12.2016
22.	24.10.2016	Auto renewal of CFO order dated 25.11.2015	Polystyrene – 315 TPD (Limited to 1,10,000 TPA) & Expandable polystyrene – 100 TPD (35,000 TPA)	31.12.2021
23.	19.12.2016	CFE (Change of Product Mix)	Polystyrene – 315 TPD to 313 TPD &	7 Years

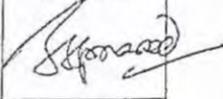
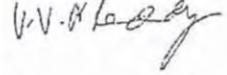
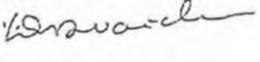
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			Expandable polystyrene – 100 TPD to 102 TPD	
24.	19.01.2017	CFO (change of product mix)	Polystyrene – 313 TPD (Limited to 1,09,000 TPA) & Expandable polystyrene – 102 TPD (36,000 TPA)	31.12.2021
25.	04.05.2017	CFE (Engineering Plastics)	Engineering Plastics – 36.67 TPD	7 Years
26.	07.08.2017	Amendment to CFE order dt. 22.4.2017 (Deleting MoEF condition)	Engineering Plastics – 36.67 TPD	--
27.	20.06.2018	CFO (Engineering Plastics)	Engineering Plastics – 36.67 TPD	30.04.2023
28.	27.12.2018	CFE (expansion – Engineering Plastics)	Engineering Plastics – 25.83 TPD	7 Years

MINUTES OF THE CFE COMMITTEE MEETING HELD ON 22.04.2017
AT ANDHRA PRADESH POLLUTION CONTROL BOARD,
NEAR PUSHPA HOTEL CENTRE, BEHIND SUNRISE HOSPITALS,
KASTURIBAIPET, VIJAYAWADA, A.P.

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ANNEXURE - AA

The following were present:

S.No.	Name of the Member	Member
1	Sri B.S.S. Prasad, IFS., Member Secretary A.P. Pollution Control Board, Hyderabad.	Chairman 
2	Dr. V.V. Narayana Reddy, Deputy Director (Scientist), (Retd.), IICT, Hyderabad	Member 
3	Prof. D. Appala Naidu, Dept., of Chemical Engineering, Andhra University, Visakhapatnam.	Member 
4	Dr. V. Ranga Rao, Dept., of Civil Engineering, K.L. University, Guntur.	Member 

The Member Secretary has welcomed the members of the Committee. After general introductory remarks on the items placed before the CFE Committee, the Committee took up agenda, item wise. The decisions of the CFE Committee on each item are recorded below.

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ITEM NO. 7 M/s. Aster Industries, Plot No. 5F, APSEZ, De-Notified Area, APSEZ, Atchutapuram, Visakhapatnam – Issue of CFE – Reg.

The Committee noted the following:

- a) M/s. Aster Industries has applied for CFE for establishment of a Bulk drug manufacturing industry at Plot No. 30 C, APSEZ, De-Notified Area, APSEZ, Atchutapuram, Visakhapatnam. The proposed plot is located in Zone-V.
- b) The Board recommended to issue CFE to the industry subject to conversion of some part of zone V into zone III.
- c) The APIIC upon the request of the proponent allotted alternate plot at plot no 5 F in Zone II, while canceling the earlier allotment.
- d) The proponent has applied for CFE of the Board again to establish in new site which is in chemical zone.

After detailed discussions, the Committee recommended to issue CFE. The earlier application of the proponent stands cancelled.

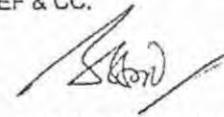
ITEM NO. 8 M/s. L.G. Polymers (I) Pvt. Ltd., R.R. Venkatapuram, Visakhapatnam – Issue of CFE for additional product – Reg.

The Committee noted the following:

- a) The existing industry is existing since 1993 i.e. prior to EIA Notification. It is manufacturing Polystyrene and Expandable Polystyrene. Hence, EC is not applicable.
- b) The industry proposed to manufacture additional product viz., Engineering Plastics in the existing industry premises.
- c) The industry may be advised to get the clarification from MoEF & CC regarding requirement of EC.

The representatives of the project proponent attended the meeting. It was informed that the additional product does not attract the provisions of EIA Notification -2006 and its amendments thereof.

After detailed discussions, the Committee recommended to issue CFE with a condition to obtain the clarification from the MoEF & CC regarding applicability of EIA Notification. If the Ministry clarifies that the industry does not require EC, the industry can start production of the additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC.



MEMBER SECRETARY



CONSENT ORDER FOR ESTABLISHMENT

Order No. APPCB/VSP/VSP/109/CFE/HO/2014

Dt: 04.05.2017

Sub: APPCB – CFE - **M/s. L.G. Polymers India Pvt. Ltd., R.R. Venkatapuram, Visakhapatnam** - Consent for Establishment (CFE) of the Board **to manufacture additional product** under Sec.25 of Water (P & C of P) Act, 1974 and Under Sec.21 of Air (P&C of P) Act, 1981 - Issued - Reg.

Ref: 1) Industry's CFE application received through Single Desk Portal on 08.04.2017.
2) R.O's inspection report dt. 14.04.2017.

1. In the reference 1st cited, an application was submitted to the Board seeking Consent for Establishment (CFE) **to manufacture additional product** with installed capacity as mentioned below, with an additional project cost of Rs. 45.0 crores.

Sl. No.	Name of the Products and By-products	As per CFE order dt. 19.12.2016	Proposed	Total capacity
1	Polystyrene	313 TPD (1,09,000 TPA)	----	313 TPD (1,09,000 TPA)
2	Expandable Polystyrene	102 TPD (36,000 TPA)	----	102 TPD (36,000 TPA)
3	Engineering Plastics	----	36.67 TPD	36.67 TPD

2. As per the application, the above activity is to be located in the existing premises at R.R. Venkatapuram, Visakhapatnam District.
3. The above site was inspected by the Environmental Engineer & Asst. Environmental Engineer-III, Regional Office, Visakhapatnam A.P Pollution Control Board on 08.04.2017 and observed that the site is surrounded by
- North** : Vacant Land
- South** : Railway Track
- East** : Green Belt of 30 Acres
- West** : Gedda
4. The Board, after careful scrutiny of the application, verification report of Regional Officer and recommendations of the CFE Committee, hereby issues **CONSENT FOR ESTABLISHMENT TO MANUFACTURE ADDITIONAL PRODUCT** Under Section 25 of Water (Prevention & Control of Pollution) Act 1974 and Section 21 of Air (Prevention & Control of Pollution) Act, 1981 and the rules made there under. **This order is issued to manufacture the products as mentioned at para (1) only.**
5. This Consent order issued is subject to the conditions mentioned in the Annexure.

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Page 1 of 5

6. This order is issued from pollution control point of view only. Zoning and other regulations are not considered.
7. **This order is valid for period of 7 years from the date of issue.**

Encl: Annexure

MEMBER SECRETARY

To

**M/s. L.G. Polymers India Pvt. Ltd.,
R.R. Venkatapuram,
Visakhapatnam.
info@lgpi.co.in**

Copy to: 1. The JCEE, Z.O., Visakhapatnam for information and necessary action.
2. The EE, R.O., Visakhapatnam for information and necessary action.

Annexure

1. The proponent shall obtain Consent for Operation (CFO) from APPCB, as required Under Sec.25/26 of the Water (P&C of P) Act, 1974 and under sec. 21/22 of the Air (P&C of P) Act, 1981, before commencement of the trial runs.
2. The applicant shall provide separate energy meters for Effluent Treatment Plant (ETP) and Air pollution Control equipments to record energy consumed. An alternative electric power source sufficient to operate all pollution control systems shall be provided.
3. The industry shall construct separate storm water drains and provide rain water harvesting structures. No effluents shall be discharged in to the storm water drains.

Water:

1. The source of water is ground water and the maximum permitted water consumption is as following:

S. No.	Purpose	As per CFE order dt. 19.12.2016	Proposed	Total
1.	Industrial cooling, boiler feed.	325.00 KLD	30.00 KLD *	355.00 KLD
2.	Domestic purposes.	40.00 KLD	2.00 KLD	42.00 KLD
3.	Processing, whereby water gets polluted and pollutants are easily bio- degradable.	----	----	----
4.	Processing, whereby water gets polluted and the pollutants are not easily bio-degradable.	185.00 KLD	----	185.00 KLD
	Total	550.00 KLD	32.00 KLD	582.00 KLD

Separate meters with necessary pipe-line shall be provided for assessing the quantity of water used for each of the purposes mentioned above.

2. The maximum waste water generation shall not exceed the following:

Sl. No.	Outlet Description	As per CFE order dt. 19.12.2016	Proposed	Total
1.	Process & washings	185.0 KLD	-----	185.0 KLD
2.	Cooling blow down	18.0 KLD	5.0 KLD	23.0 KLD
3.	Boiler blowdown	10.0 KLD	-----	10.0 KLD
4.	Domestic	40.0 KLD	2.0 KLD	42.0 KLD
	Total	253.0 KLD	7.0 KLD	260.0 KLD

Treatment & disposal:

Source of Effluent	Treatment	Mode of final disposal
Process washings	ETP (Phase – I): The 150 KLD ETP consists of equalization tank, neutralization tank, clarifier followed by sludge drying beds for treatment of wastewater generating from EPS Plant	To ETP – II
Waste water treated in ETP – 1 and boiler / cooling tower blow downs	ETP (Phase – II): 250 KLD biological ETP consists of Collection tank, aeration tank, clarifier, chlorination tank, Duel filter system (activated carbon bed, and sand bed filter), Treated water sump	On land for plantation / Recycled for process washings
Domestic	The 40 KLD STP consists of Equalization tank, Aeration tank, tube settler, Clarified water tank, sludge hooding tank, Duel filter system (activated carbon bed, and sand bed filter).	On land for plantation

3. All the units of the ETP shall be maintained properly impervious to prevent ground water pollution.
4. The industry shall provide magnetic flow meters with totalisers at the inlet and outlet of ETP.
5. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas. All pipe valves, sewers, drains shall be leak proof.
6. The capacity of existing STP shall be increased to treat the domestic waste water generated (42 KLD).

Air:

7. The Air pollution Control equipment shall be installed along with the commissioning of the activity and shall comply with the following for controlling air pollution.

Existing:

Sl. No	Details of Stack				
1.	Attached to:	HIPS Oil Fired Heater	GPPS Oil Fired Heater	Oil fired Boilers – 2 Nos.	DG Set
2.	Capacity	Capacity – 10 Lakhs K.cal	Capacity – 12 Lakhs K.cal	1 X 5 TPH & 1 X 8 TPH (Standby)	4 X 1000 KVA & 1 X 500 KVA
3.	Stack height:	34 m	30.5 m	33 & 34 m	21.65 & 10 m + 21.65 m
4.	Details of Air Pollution Control Equipment:	-----	---	Wet scrubber (2no.s)	

8. **There shall not be any additional boiler / DG set / heaters from the proposed additional product. The existing air pollution control equipment shall be operated effectively to ensure compliance of stipulated emission standards. It is proposed to provide Degassing system consists of wet scrubber, Mist separator cum absorber followed by vent.**
9. The industry shall implement adequate measures to control all fugitive emissions from the plant.
10. The proponent shall ensure compliance of the National Ambient Air quality standards notified by MoEF, Gol vide notification No. GSR. 826 (E), dated. 16.11.2009 during construction and regular operational phase of the project at the periphery.

The generator shall be installed in a closed area with a silencer and suitable noise absorption systems. The ambient noise level shall not exceed 75 dB(A) during day time and 70 dB(A) during night time.

Solid Waste:

11. The proponent shall comply with the following with respect to disposal of solid waste even after proposed additional product:

S. No.	Name of the Hazardous waste	As per CFE order dt. 19.12.2016	Disposal Option
1.	ETP Sludge	100 TPA	TSDF, Parawada, Visakhapatnam District for secured land filling
2.	Used / spent Oils	2.0 KLPA	Authorised re-processor / recyclers
3.	Container & Container Liners of Hazardous Waste & Chemicals	2.0 TPA	After complete detoxification, it shall be disposed of to outside Agencies.

12. The proponent shall place the chemical drums and / or any drums in a shed provided with concrete platform only. The Platform shall be provided with sufficient dyke wall and effluent collection system. The industry shall provide containers detoxification facility. Container & Container liners shall be detoxified at the specified covered platform with dyke walls and the wash wastewater shall be routed to low TDS collection tank.
13. The following rules and regulations notified by the MoE&F, GoI shall be implemented.
 - a) Hazardous waste and other wastes (Management and Transboundary Movement) Rules, 2016.
 - b) Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
 - c) Batteries (Management & Handling) Rules, 2010.
 - d) E-Waste (Management) Rules, 2016.
 - e) Construction and Demolition waste Management Rules, 2016.

Other Conditions:

14. **The industry shall obtain the clarification from the MoEF & CC regarding applicability of EIA Notification for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start production of the additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC.**
15. Existing green belt shall be maintained all along the boundary & vacant spaces with tall growing trees with good canopy and it shall not be less than 33% of the total area.
16. Concealing the factual data or submission of false information/ fabricated data and failure to comply with any of the conditions mentioned in this order and attract action under the provisions of relevant pollution control Acts.
17. Notwithstanding anything contained in this conditional consent, the Board hereby reserves its right and power under Sec.27(2) of Water (Prevention and Control of Pollution) Act, 1974 and under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to review any or all the conditions imposed herein and to make such alternation as deemed fit and stipulate any additional conditions or revoke the order in the interest of environment protection.
18. Any person aggrieved with this order may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules, 1982, to the Appellate Authority constituted under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.

MEMBER SECRETARY

To
M/s. L.G. Polymers India Pvt. Ltd.,
R.R. Venkatapuram,
Visakhapatnam.
 info@lgi.co.in



ANDHRA PRADESH POLLUTION CONTROL BOARD
 PARYAVARAN BHAVAN, A - 3, INDUSTRIAL ESTATE,
 SANATHNAGAR, HYDERABAD - 500 018

Phone: 23887500
 Website : www.appcb.ap.nic.in

APPCB/VSP/VSP/109/CFE/HO/2014

Dt: 03.06.2017

M/s. L.G. Polymers India Pvt. Ltd.,
 R.R. Venkatapuram,
 Visakhapatnam.
 info@lghi.co.in

Sir,

Sub: APPCB - CFE - M/s. L.G. Polymers (I) Pvt. Ltd., R.R. Venkatapuram,
 Visakhapatnam - Amendment to the CFE order – Decision of the Committee –
 Communicated – Reg.

Ref: 1) CFE order dt 04.05.2017.
 2) Industry's representation dt 10.05.2017.
 3) CFE Committee meeting held on 20.05.2017.

In the reference 1st cited, the Board had issued CFE to the industry to manufacture additional product viz., Engineering Plastics as detailed below:

Sl. No.	Name of the Products and By-products	As per CFE order dt. 19.12.2016	Proposed	Total capacity
1	Polystyrene	313 TPD (1,09,000 TPA)	----	313 TPD (1,09,000 TPA)
2	Expandable Polystyrene	102 TPD (36,000 TPA)	----	102 TPD (36,000 TPA)
3	Engineering Plastics		36.67 TPD	36.67 TPD

Raw material to produce Engineering plastics:

Sl. No.	Name of the raw material	quantity
1	Additives Glass Fiber Talc	6.70 MTPD
2	Poly Butylene Terephthalate	7.66 MTPD
3	Polycarbonate	13.40 MTPD
4	Polypropylene	2.17 MTPD
5	Polyamide	2.62 MTPD
6	Acrylonitrile Butadiene styrene	4.12 MTPD

The Board issued above CFE order dt 04.05.2017 incorporating the following additional condition:

The industry shall obtain the clarification from the MoEF & CC regarding applicability of EIA Notification for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start production of the additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC.

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The industry vide reference 2nd cited informed that the MoEF & CC, Gol, New Delhi vide amendment to EIA Notification dt. 25.06.2014 had **exempted manufacture of products from polymer granules from the purview of EIA Notification**. The industry, therefore, requested to delete the above condition from the CFE order.

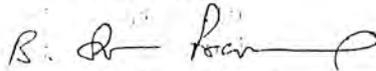
The item was placed before the CFE Committee meeting held on 20.05.2017. The representatives of the industry attended the meeting. They have submitted a copy of Environmental Management Plan (EMP). It is observed from the EMP that the industry would use **some of the raw materials viz., Talc and Additives in the powder form and not in the form of granules**. After detailed discussions, the Committee opined that the condition stipulated by the Board in the CFE order dt. 15.05.2017 to obtain clarification from the MoEF&CC, Gol, New Delhi holds good.

In view of the above, the industry shall obtain the clarification from the MoEF & CC regarding applicability of EIA Notification before starting the construction work for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start construction of the unit to produce additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC, New Delhi.

This is for information and to take further necessary action -

Yours faithfully,
Sd/-
MEMBER SECRETARY

-// T.C.F.B.O //-



Jt. Chief Environmental Engineer (UH-1)

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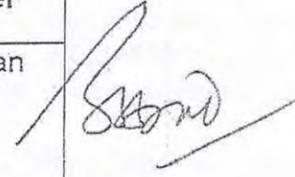
MINUTES OF THE CFE COMMITTEE MEETING HELD ON 27.07.2017
AT ANDHRA PRADESH POLLUTION CONTROL BOARD,
NEAR PUSHPA HOTEL CENTRE, BEHIND SUNRISE HOSPITALS,
KASTURIBAIPET, VIJAYAWADA, A.P.

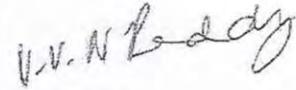
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ANNEXURE - DD

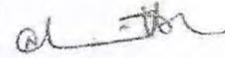
The following were present:

S.No.	Name of the Member	Member
1	Sri B.S.S. Prasad, IFS., Member Secretary A.P. Pollution Control Board, Hyderabad.	Chairman
2	Dr. V.V. Narayana Reddy, Deputy Director (Scientist), (Retd.), IICT, Hyderabad	Member
3	Dr. V. Ranga Rao, Dept., of Civil Engineering, K.L. University, Guntur.	Member
4	Dr. N. Chitti Babu, Dept., of Chemical Engineering, Andhra University, Visakhapatnam.	Member









The Member Secretary has welcomed the members of the Committee. After general introductory remarks on the items placed before the CFE Committee, the Committee took up agenda, item wise. The decisions of the CFE Committee on each item are recorded below.

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ITEM NO. 9 M/s. Swaasa Pharma Limited, Plot No.23K, APIIC Ltd., Atchutapuram Industrial Area, Lalamkoduru (V), Rambilli (M), Visakhapatnam District - Amendment to CFE order – Reg.

The Committee noted the following:

The Board issued CFE vide order dt. 17.12.2013 to M/s. Swaasa Pharma Limited, to manufacture bulk drugs, at Plot No.23K, APIIC Ltd., Atchutapuram Industrial Area, Lalamkoduru (V), Rambilli (M), Visakhapatnam District with a project cost of Rs. 14.60 Crores.

The Board stipulated to install ZLD system to treat the waste water generated.

The industry vide Ir. dt. 17.07.2017 requested to amend the above CFE order to send their effluents (HTDS & LTDS) to M/s. Coastal Waste Management Project for further treatment and disposal till the CETP in APSEZ is functional, based on the following grounds:

- Earlier, the industry has proposed to install ZLD system to treat the effluents generated as the CETP in the APSEZ was not installed. Accordingly, CFE order dt. 17.12.2013 was issued stipulating above mentioned condition.
- M/s. Ramky Pharmacy (India) Limited vide Ir. dt. 26.05.2017 informed that they would accept 18 KLD of HTDS and 13.5 KLD of LTDS effluents from the industry provided the industry becomes the member of M/s. Coastal Waste Management Project to avail the services of Hazardous Waste Management.
- The CETP in APSEZ will be ready in next three or four months.

The representatives of the project proponent attended the meeting and requested for above amendment as the Board considered in case of other units in the SEZ.

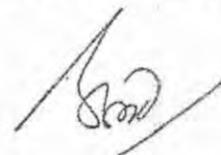
After detailed discussions, the Committee recommended to issue amendment to CFE as requested by the industry.

ITEM NO. 10 M/s. L.G. Polymers (I) Pvt. Ltd., R.R. Venkatapuram, Visakhapatnam - Applied for amendment to CFE order – Reg.

The Committee noted the following:

- a) The item was placed before the CFE Committee meeting held on 22.04.2017. Based on the recommendations of the Committee CFE order dt. 04.05.2017 was issued with the following condition:

The industry shall obtain the clarification from the MoEF & CC regarding applicability of EIA Notification for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start production of the additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC.

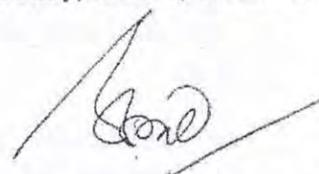


MEMBER SECRETARY

- b) Subsequently, the industry vide lr. dt. 10.05.2017 informed that the MoEF&CC, Gol, New Delhi vide amendment to EIA Notification dt. 25.06.2014 had exempted manufacture of products from polymer granules from the purview of EIA Notification. The industry therefore requested to delete the above condition from the CFE order. **The item was placed before the CFE Committee meeting held on 20.05.2017. After detailed discussions, the Committee opined that the condition stipulated by the Board in the CFE order dt. 04.05.2017 to obtain clarification from the MoEF&CC, Gol, New Delhi holds good. Hence, the industry shall obtain the clarification from the MoEF & CC regarding applicability of EIA Notification before starting the construction work for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start construction of the unit to produce additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC.**
- c) The above decision was communicated to the industry vide lr. dt. 03.06.2017. The Committee noted the following:
- The industry vide lr. dt. 11.07.2017 informed as following:
 - With reference to the opinion of CFE Committee that the Talc and other Additives are in Powder form, the industry appealed that being Talc in Powder form should not considered for the EIA Notification as Talc is not a Petro Chemical based product in Nature and it is only added to strengthen the hardness property in the product. Also no chemical reaction involved in it and it was only pure homogenous mixing of granules with Talc and Glass fiber to enhance the mechanical strengthening properties.
 - In view of the above, as EIA Amendment notification issued has clarified that our proposed additional product of engineering plastics which is manufactured from Polymer Granules is exempted from Environmental Clearance. The industry requested to delete the condition no. 14 in other conditions.
 - The Committee had also noted that SEIAA, Gujarat had issued Environmental Clearance to similar products in an existing unit, in their State. Hence, the industry may be requested to obtain Environmental Clearance on similar grounds.

The representatives of the project proponent attended the meeting. They have submitted a lr. dt. 27.07.2017 and informed as following:

- ❖ The industry approached MoEF & CC, Gol, New Delhi on 22.06.2017 and met the concerned authority in IA division and appraised them about the conditions stipulated by the Board.
- ❖ The officials of MoEF&CC opined that their process is simple homogenous mix and extrusion from Polymer Granules and additives are Minerals, used as fillers. Hence, does not attract EC. There is no effluent generation from the process and water is used only for cooling purpose.
- ❖ No time limit has assured by the officials of MoEF due to their heavy workload for written clarification, as the file has to be circulated to Joint Secretary, IA-DIV, MoEF & CC, Gol, New Delhi.



MEMBER SECRETARY

- ❖ Even though Engineering Plastic customers are away from Vizag location, their parent company considering this site due to availability of resources like land, power, skilled manpower etc., and project can be completed within 9 months duration. EC clarification from MoEF may lead to inordinate delay of the project.
- ❖ Copies of the consent orders of other Pollution Control Boards issued to similar type of industries are submitted and requested to delete the condition stipulated by the Board.

After detailed discussions, the Committee opined that the process involved is formulation of different raw materials and recommended to delete the following condition stipulated in the earlier CFE order.

"The industry shall obtain the clarification from the MoEF & CC regarding applicability of EIA Notification for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start production of the additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC."

ITEM NO. 11 M/s. Andhra Cements Limited (Cement Division), Durga Cements Works, Durgapuram (V), Dachepalli (M), Guntur District - Applied for use of Pet Coke as fuel in the Kiln of Cement Plant - Reg.

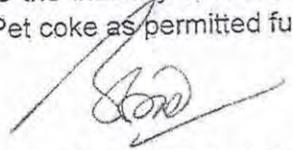
The Committee noted the following:

- The area of green belt shall be 33% of total area i.e., 142 acres. But, the industry had developed green belt in an area of 100 acres only. It shall be completed during this monsoon season. The industry shall give a commitment on this.
- As per the provisions laid under MoEF&CC Notification dt. 23.11.2016, the proposal of the industry may be accepted.
- The industry shall inform the EMP for handling and storage of Pet Coke and SO₂ emission control from the kiln.

The representatives of the project proponent attended the meeting. They have informed as following:

- ❖ Presently Green belt completed in 121.0 acres and further balance 21.0 acres will be completed during this monsoon season.
- ❖ Covered storage shed of Pet coke already installed in our plant.
- ❖ We have already installed Continuous Stack Emission Monitoring System (CSEMS) for parameter SO₂ for the stack for raw Mill / Kiln (RABH)) and data generated are displayed in CPCB / APPCB website.
- ❖ The Pet coke is stored under a shed. Reclaiming of Fuel / Pet coke will be carried out through Reclaimer and transported through covered Belt conveyors into Coal Mills for grinding.

After detailed discussions, the Committee noted that the APPCB addressed a letter to the Government to declare Pet coke as permitted fuel as per the directions of NGT. The orders are awaited. Hence, the Committee recommended that permission to the industry to use Pet coke as fuel shall be issued after receipt of Government orders declaring Pet coke as permitted fuel.


MEMBER SECRETARY



AMENDMENT TO THE CFE ORDER

Order No. APPCB/VSP/VSP/109/CFE/HO/2014

Dt: 07.08.2017

Sub: APPCB - CFE - **M/s. L.G. Polymers (I) Pvt. Ltd., R.R. Venkatapuram, Visakhapatnam** - Amendment to the CFE order – Issued – Reg.

- Ref: 1) CFE order dt. 04.05.2017.
2) Industry's representation dt. 10.05.2017.
3) CFE Committee meeting held on 20.05.2017.
4) T.O. Ir. dt. 03.06.2017.
5) Industry's representation dt. 11.07.2017.
6) CFE Committee meeting held on 27.07.2017.
7) Industry's representation dt. 27.07.2017.

In the reference 1st cited, the Board had issued CFE to the industry to manufacture additional product viz., Engineering Plastics as detailed below:

Sl. No.	Name of the Products and By-products	As per CFE order dt. 19.12.2016	Proposed	Total capacity
1	Polystyrene	313 TPD (1,09,000 TPA)	----	313 TPD (1,09,000 TPA)
2	Expandable Polystyrene	102 TPD (36,000 TPA)	----	102 TPD (36,000 TPA)
3	Engineering Plastics	----	36.67 TPD	36.67 TPD

The Board issued above CFE order dt. 04.05.2017 incorporating the following “condition no. 14 under other conditions”:

“The industry shall obtain the clarification from the MoEF & CC regarding applicability of EIA Notification for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start production of the additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC.”

In the reference 2nd cited, the industry requested the Board to delete above condition as the MoEF & CC, Gol, New Delhi vide amendment to EIA Notification dt. 25.06.2014 had **exempted manufacture of products from polymer granules from the purview of EIA Notification.**

In the reference 4th cited the industry was again requested to obtain the clarification from the MoEF & CC regarding applicability of EIA Notification before starting the construction work for the proposed additional product. If the Ministry clarifies that the industry does not require EC, the industry can start construction of the unit to produce additional product. Otherwise, the industry shall comply with the directions issued by the MoEF & CC, New Delhi.

The industry vide reference 5th cited again requested to delete the above condition from the CFE order.

The item was placed before the CFE Committee meeting held on 27.07.2017. The representatives of the project proponent attended the meeting. They have submitted a letter dt. 27.07.2017 and informed as following:

- ❖ The industry approached MoEF & CC, Gol, New Delhi on 22.06.2017 and met the concerned authority in IA division and apprised them about the conditions stipulated by the Board.
- ❖ The officials of MoEF&CC opined that their process is simple homogenous mix and extrusion from Polymer Granules and additives are Minerals, used as fillers. Hence, does not attract EC. There is no effluent generation from the process and water is used only for cooling purpose.
- ❖ No time limit has assured by the officials of MoEF due to their heavy workload for written clarification, as the file has to be circulated to Joint Secretary, IA-DIV, MoEF & CC, Gol, New Delhi.
- ❖ Even though Engineering Plastic customers are away from Vizag location, their parent company considering this site due to availability of resources like land, power, skilled manpower etc., and project can be completed within 9 months duration. EC clarification from MoEF may lead to inordinate delay of the project.
- ❖ Copies of the consent orders of other Pollution Control Boards issued to similar type of industries are submitted and requested to delete the condition stipulated by the Board.

After detailed discussions, the Committee opined that the process involved **is formulation of different raw materials** and recommended to delete the above condition stipulated in the earlier CFE order issued vide reference 1st cited.

The Board after careful scrutiny of the representation of the unit and recommendations of the CFE Committee, hereby **deletes the "condition no. 14 under other conditions"** of CFE order issued vide reference 1st cited.

- ❖ **All other conditions mentioned in the orders issued vide reference 1st cited remain the same.**

MEMBER SECRETARY

To

**M/s. L.G. Polymers India Pvt. Ltd.,
R.R. Venkatapuram,
Visakhapatnam.
info@lgpi.co.in**

Copy to: 1. The JCEE, Z.O., Visakhapatnam for information and necessary action.
2. The E.E., R.O., Visakhapatnam for information and necessary action.

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**ANNEXURE - FF****MINUTES OF THE 128th MEETING OF STATE EXPERT APPRAISAL COMMITTEE (SEAC), A.P.,
HELD ON 20th, 21st, 22nd & 23rd June 2019 AT VIJAYAWADA, A.P.****Present:****The following members were present:**

1.	Dr. V.S.R.K.Prasad Visakhapatnam	Chairman
2.	Sri. BSS Prasad, I.F.S. Chairman, APPCB	Special Invitee
3.	Prof. S. Bala Prasad Visakhapatnam	Member
4.	Prof.B.V.Sandeep(Retd.) Visakhapatnam	Member
5.	Prof. P. Jagannadha Rao Visakhapatnam	Member
6.	Dr.Pulipati King Visakhapatnam	Member
7.	Sri. V. Veda Kumar, Hyderabad	Member
8.	Dr. M. Bullaiah, IFS(Retd.) Hyderabad	Member
9.	Prof.K.Seshaiah Tirupati	Member
10.	Prof. KVG Murali Krishna Kakinada.	Member
11.	Dr. G.Devala Rao Vijayawada	Member
12.	Prof. K. Kameswara Rao(Retd.) Visakhapatnam	Member
13.	Prof. Y.Venkateswara Rao (Retd.) Visakhapatnam	Invitee



MINUTES OF THE 128th MEETING OF STATE EXPERT APPRAISAL COMMITTEE (SEAC), A.P. 418
HELD ON 20th, 21st, 22nd & 23rd June 2019 AT VIJAYAWADA, A.P.

		the EMP.
128.45	4.996 Ha. Ordinary Sand Mine of Usulumarru – 2 Sand Reach at Usulumarru Village, Peravali Mandal, West Godavari Andhra Pradesh (SIA/AP/MIN/35936/2019)	<i>Category : B2</i> The representatives of the project proponent and their RQP have attended the meeting. The Committee recommended for issue of Environmental clearance for one year to this proposed sand mining project for the production quantities: Ordinary sand – 49,960 m³/Annum , duly stipulating a condition that the project proponent shall carryout mining only one meter depth sand from the top manually and no under water mining is undertaken. The project proponent shall allocate sufficient funds for implementation of CSR activities as committed by the representative along with the EMP.
128.46	2.0 Ha. Road Metal & Building Stone and M. Sand mine of M/s. Maha Lakshmi Industries at Sy.No 127/1, Kotakandukur Village, Allagadda Mandal, Kurnool District, Andhra Pradesh (SIA/AP/MIN/35937/1900)	<i>Category : B2</i> The representative of the project proponent and their consultant M/s. Team Labs and Consultants have attended the meeting and presented their proposal. The Committee recommended for issue of Environmental Clearance to this proposed Road Metal & Building Stone mining project for the production quantities: Road Metal & Building Stone 80,100 Tons Per Annum , duly stipulating a condition that the project proponent shall maintain the setback distance 7.5 meters buffer zone all around the mine lease area for greenbelt development and other conditions are to be fulfilled. There should not be any waste generation and disposal. The project proponent shall allocate sufficient funds for implementation of CSR activities as committed by the representative along with the EMP. The avenue plantation with tall plants, of at least 1.5m height, for 1 km length of the approach road on either side of the road is to be developed and maintained.
128.47	0.976 Ha. Road Metal & Boulders Quarry of Smt N. Veeramma at Sy.No 75-3A of Bolleddulapalem Village, Korukonda Mandal, East Godavari District, Andhra Pradesh (SIA/AP/MIN/35574/2019)	<i>Category : B2</i> <i>The representative of the project proponent and their consultant M/s. Prudhvi Enviro Tech Consultants have attended the meeting and presented their proposal.</i> The Committee recommended for issue of Environmental Clearance to this proposed Road Metal & Boulders mining project for the production quantities: Road Metal & Boulders 15,000.00 TPA , duly stipulating a condition that the project proponent shall maintain the setback distance 7.5 meters buffer zone all around the mine lease area for greenbelt development and other conditions are to be fulfilled. The project proponent shall allocate sufficient funds for implementation of CSR activities as committed by the representative along with the EMP. The avenue plantation with tall plants, of at least 1.5m height, for 1 km length of the approach road on either side of the road is to be developed and maintained.
128.48	M/s. LG Polymers India Pvt. Ltd., at Sy. No.s 29 to 45, 83/1 and 83/3, Industrial Zone, RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh. (SIA/AP/IND2/24597/2018)	<i>Category :</i> <i>The representative of the project proponent and their consultant M/s. Team Labs & Consultants have attended the meeting and presented their proposal.</i> <i>The project proponent has informed that they have filed their application to the SEIAA , A.P. instead of filling to the MoEF&CC as their project comes under Category 'A' and requested to transfer the file to MoEF&CC.</i> <i>The committee recommended to transfer this proposal to the MoEF&CC, Government of India, New Delhi for further</i>

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MINUTES OF THE 128th MEETING OF STATE EXPERT APPRAISAL COMMITTEE (SEAC), A.P. 419
HELD ON 20th, 21st, 22nd & 23rd June 2019 AT VIJAYAWADA, A.P.

		<i>processing.</i>
128.49	1.27 Ha. Road Metal & Building Stone of Sri P. Ramana Murthy at Sy. No. 223, Rapaka Village, Ponduru Mandal, Srikakulam District, Andhra Pradesh (SIA/AP/MIN/36087/2019)	Category : B2 The project proponent and RQP have attended the meeting. The committee recommended for issue of Environmental Clearance to this proposed <i>Road Metal & Boulders</i> mining project for the production quantities: Road Metal & Boulders 27,960 m³/annum , duly stipulating a condition that the project proponent shall maintain the setback distance 7.5 meters buffer zone all around the mine lease area for greenbelt development and other conditions are to be fulfilled. The project proponent shall allocate sufficient funds for implementation of CSR activities as committed by the representative along with the EMP. The avenue plantation with tall plants, of at least 1.5m height, for 1 km length of the approach road on either side of the road is to be developed and maintained.
128.50	2.0 Ha. Road Metal & Building Stone of M/s. Sri Durga Malleswara Swamy Metal Industries at Sy. No. 17, Garisingi Village, Devarapalli Mandal, Visakhapatnam District, Andhra Pradesh (SIA/AP/MIN/36094/2019)	<i>Category: B2.</i> <i>The representative of the project proponent and their consultant M/s. Prudhvi Enviro Tech Consultants have attended the meeting and presented their proposal.</i> The Committee recommended for issue of Environmental Clearance to this proposed <i>Road Metal & Building Stone</i> mining project for the production quantities: Road Metal & Building 39,008 m³/annum , duly stipulating a condition that the project proponent shall maintain the setback distance 7.5 meters buffer zone all around the mine lease area for greenbelt development and other conditions are to be fulfilled. The project proponent shall allocate sufficient funds for implementation of CSR activities as committed by the representative along with the EMP. The avenue plantation with tall plants, of at least 1.5m height, for 1 km length of the approach road on either side of the road is to be developed and maintained.
128.51	4.950 Ha. Road Metal, Boulders and Gravel of M/S HES Infra Private Limited at Sy. No. 135 & 136, Gunnampudi Village, Butchayyapeta Mandal, Visakhapatnam District, Andhra Pradesh (SIA/AP/MIN/35170/2019)	<i>Category: B2</i> The representatives of the project proponent and RQP have attended the meeting. The Committee recommended for issue of Environmental Clearance to this proposed <i>Road Metal & Boulders</i> mining project for the production quantities: Road Metal Boulders: 2,24,800 m³/annum and Gravel: 5400 m³ /annum , duly stipulating a condition that the project proponent shall maintain the setback distance 7.5 meters buffer zone all around the mine lease area for greenbelt development and other conditions are to be fulfilled. The project proponent shall allocate sufficient funds for implementation of CSR activities as committed by the representative along with the EMP. The avenue plantation with tall plants, of at least 1.5 m height, for 1 km length of the approach road on either side of the road is to be developed and maintained.
128.52	1.754 Ha. Colour Granite Mine of M/s. Vigneshwara Granite at Sy. No. 981/3 (Old Survey No. 05) of Gollapalli Village, B. Kothakota Mandal, Chittoor District, Andhra Pradesh (SIA/AP/MIN/34648/2019)	<i>Category: B2</i> The representatives of the project proponent and their consultant M/s. Space Enviro have attended the meeting. The Committee recommended for issue of Environmental Clearance to this proposed <i>Colour Granite</i> mining project for the production quantities: Colour Granite-5,185 m³/Annum , duly stipulating a condition that the project proponent shall maintain the setback distance 7.5 meters buffer zone all around the mine lease area for greenbelt development and other conditions are to be fulfilled. The project proponent shall

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**MINUTES OF THE 120th MEETING OF STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT
AUTHORITY (SEIAA), A.P, HELD ON 09th & 10th JULY, 2019 AT VIJAYAWADA, A.P.**

120th SEIAA, A.P.



**MINUTES OF THE 120th MEETING OF THE
STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY (SEIAA),
ANDHRA PRADESH
HELD ON 09th & 10th JULY
AT VIJAYAWADA
A.P.**

TRUE COPY



	<p>Road Metal & Boulders 15,000.00 TPA, duly stipulating a condition that the project proponent shall maintain the setback distance 7.5 meters buffer zone all around the mine lease area for greenbelt development and other conditions are to be fulfilled. The project proponent shall allocate sufficient funds for implementation of CSR activities as committed by the representative along with the EMP. The avenue plantation with tall plants, of at least 1.5m height, for 1 km length of the approach road on either side of the road is to be developed and maintained.</p> <p>Decision of SEIAA: Agreed with recommendation of the SEAC, A.P.</p>
120.48	<p>M/s. LG Polymers India Pvt. Ltd., at Sy. No.s 29 to 45, 83/1 and 83/3, Industrial Zone, RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh.</p> <p>(SIA/AP/IND2/24597/2018)</p>
	<p>Recommendations of the SEAC on 21.06.2019</p> <p><i>Category :</i> <i>The representative of the project proponent and their consultant M/s. Team Labs & Consultants have attended the meeting and presented their proposal.</i></p> <p><i>The project proponent has informed that they have filed their application to the SEIAA , A.P. instead of filling to the MoEF&CC as their project comes under Category 'A' and requested to transfer the file to MoEF&CC.</i></p> <p><i>The committee recommended to transfer this proposal to the MoEF&CC, Government of India, New Delhi for further processing.</i></p> <p>Decision of SEIAA: Agreed with recommendation of the SEAC, A.P.</p>
120.49	<p>1.27 Ha. Road Metal & Building Stone of Sri P. Ramana Murthy at Sy . No. 223, Rapaka Village, Ponduru Mandal, Srikakulam District, Andhra Pradesh</p> <p>(SIA/AP/MIN/36087/2019)</p>
	<p>Recommendations of the SEAC on 21.06.2019</p> <p><i>Category : B2</i></p> <p><i>The project proponent and RQP have attended the meeting.</i></p> <p><i>The committee recommended for issue of Environmental Clearance to this</i></p>

	<p>State Level Environment Impact Assessment Authority (SEIAA) Andhra Pradesh Ministry of Environment, Forests & Climate Change, Government of India D.No.33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre, Chalamavari Street, Kasturibaipet, Vijayawada-520010</p>
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By Speed Post

Lr No. SEIAA/VSP/IND/VIO/04/2018/971- 831

Dt:12.08.2019

To
The Joint Director, Impact Assessment Division,
Government of India,
Ministry of Environment, Forest and Climate Change,
3rd Floor, Prithvi-Block,
Indira Paryavaran Bhawan, Jor Bagh Road,
New Delhi-110003

Sir,

Sub: SEIAA, A.P. – M/s. LG Polymers India Pvt. Ltd., at Sy. Nos. 29 to 45, 83/1 and 83/3, Industrial Zone, RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh – Terms of Reference (TOR) – Transfer of application to MoEF&CC as the proposed project comes under Category 'A' - Reg.

Ref: Your application received through online on 10.05.2019 (SIA/AP/IND2/24597/2018).

**

In continuation of the above, it is to inform that your application was examined by the State Expert Appraisal Committee (SEAC) in its meeting held on 21.06.2019.

Category: B2

The representative of the project proponent and their consultant M/s. Team Labs & Consultants have attended the meeting and presented their proposal.

The project proponent has informed that they have filed their application to the SEIAA, A.P. instead of filling to the MoEF&CC as their project comes under Category 'A' and requested to transfer the file to MoEF&CC.

The committee recommended to transfer this proposal to the MoEF&CC, Government of India, New Delhi for further processing

The issue was placed before the SEIAA in its meeting held on 09.07.2019 and the Authority agreed with recommendations of the SEAC, A.P.

This is for information.

Sd/-
MEMBER,
SEIAA, A.P.

Sd/-
CHAIRMAN,
SEIAA, A.P.

// T.C.F.B.O //

P. Murali Swamy Reddy
SENIOR ENVIRONMENTAL ENGINEER (EC)

Copy to: M/s. LG Polymers India Pvt. Ltd., Sy. No. 1 to 46 at Venkatapuram Village & Sy. No. 77 to 83, 111 to 118 at Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh for information. You are also requested to submit the application to MoEF&CC directly through online under Category 'A' project.

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ANNEXURE - II

SolutionPartner

LG Polymers India Pvt. Ltd.

Regd. Office & Works : R.R. Venkatapuram, Visakhapatnam - 530 029, India

CORPORATE IDENTITY NUMBER (CIN) : U25203AP1996PTC025917



Visakhapatnam	91-891-2520455 ~ 458	Fax : 91-891-2520528
Mumbai	91-22-61085300 ~ 332	Fax : 91-22-61085344
Gurgaon	91-0124-4692700 ~ 11	Fax : 91-0124-4692701
Kolkatta	91-33-25797977 & 78	
Chennai	91-44-26650201	Fax : 91-44-43870203
Vijayawada	91-9849170565	
Pune	91-020-66487600	

Date: 23/10/2019

To,
The Member Secretary,
State Level Environment Impact Assessment Authority (SEIAA)
 O/o. Andhra Pradesh Pollution Control Board
 D. No. 33-26-14 D/2, Near Sunrise Hospital,
 Pushpa Hotel Centre, Chalamvari Street, Kasturibaipet,
Vijayawada - 520 010.

Sub: Transfer of our application to MoEF & CC through PARIVESH portal

Ref.: Proposal no. SIA/AP/IND2/24597/2018 & File No. AP VSP IND VIO 04 2018 971

Respected Sir,

We have applied for Grant of TOR for our regularisation case and expansion project at Sy. No. s 29 to 45, 83/1 and 83/3, Industrial Zone, RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh.

Our proposal was considered in 128th SEAC meeting on 21st June 2019 & recommended to seek Environmental clearance under A category and transfer proposal to MoEF & CC for further processing considering that the proposal is in an area classified as Industrial zone as per Urban Development Department but not Notified Industrial area/estate from Industries Department.

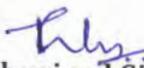
However, the Parivesh ONLINE portal is not accepting applications for regularisation since the window for regularisation cases is now closed. During discussion with MoEF & CC officials, they directed us to approach SEIAA & request to transfer proposal from SEIAA to MOEF& CC through PARIVESH portal internally.

We request you to kindly transfer our proposal to MoEF & CC through PARIVESH portal for further processing.

Thanking You,

Yours faithfully,

For, **LG Polymers India Pvt. Ltd.**


Authorised Signatory

Encl: 1) SEIAA letter, Lr no. SEIAA/VSP/IND/VIO/04/2018/971-831 dated 12.08.19

Head Office :

601 & 602, 6th Floor, A-Wing, Delphi Orchard Avenue, Hiranandani Gardens, Powai, Mumbai-400076

Visit us at www.lgpi.co.in or www.lgchem.com or www.polymerwide.com

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ANNEXURE - JJ

SolutionPartner

LG Polymers India Pvt. Ltd.

Regd. Office & Works : R.R. Venkatapuram, Visakhapatnam - 530 029, India

CORPORATE IDENTITY NUMBER (CIN) : U25203AP1996PTC025917

ISO 9001:2015 &
ISO 14001:2015
BUREAU VERITAS
Certification



Visakhapatnam	91-891-2520455 - 458, Fax: 91-891-2520528
Mumbai	91-22-61085300 - 332, Fax: 91 - 22-61085344
Gurgaon	91-0124-4692700 -11, Fax: 91-0124-4692701
Kolkata	91-33-2579777 & 78
Chennai	91-44-26650201 Fax: 91-44-43870203
Vijayawada	91-9849170565
Pune	91-020-66487600

To,

Dt. 27.11.2019

State Environment Impact Assessment Authority,

D.No. 33-26-14 D/2,
Near Sunrise Hospital,
Pushpa Hotel Centre,
Chalamavari Street,
Kasturibaipet, Vijayawada - 520010



Sub: Transfer of our application from SEIAA to MOEF&CC as category A.

Ref: Your letter No. SEIAA/VSP/IND/VIO/04/2018/971-831 date 12/08/2019

Sir,

We had applied to SEIAA, Andhra Pradesh for grant of Post facto clearance for regularization of existing activities and expansion for our unit located at RR Venkatapuram, Visakhapatnam as B category case since this industrial site was set up in 1965 and area is a VUDA Notified Industrial Zone as per approved Master Plan 2021 of Visakhapatnam passed in June, 2006. After uploading the file (on 12.04.2018) in the Online portal, we received an EDS query on 18.09.2018 to submit Notarized affidavit in format approved by SEIAA. We observed that the SEIAA format was specific to Mining units and hence approached SEAC/SEIAA for making changes to the format specific to our case being a Petrochemical unit. During personal discussions, we were told that in addition to the affidavit, we will be required to produce documents confirming that we are located in an Industrial Zone Notified by Industries Department, without which our case cannot be considered at State level.

We pursued our case with Industries Department and APIIC who informed us that although our site has been an Industrial zone notified by Urban Development, Visakhapatnam since early sixties and land was always under Industrial use, the area was not Notified by Industries Department. Hence, they were not in a position to give us letter stating that our site was located in an area Notified by Industries Department. However, by the time the window for application for post-facto regularization of violation cases had long closed. We then started to pursue with SEIAA to transfer of our file to MoEF&CC as A category project, but we were told that even to enable such transfer, we were required to submit Affidavit, pay processing fees and also attend SEAC meeting and only then SEIAA can transfer the file.

Head Office :

601 & 602, 6th Floor, A-Wing, Delphi Orchard Avenue, Hiranandani Gardens, Powai, Mumbai-400076

Visit us at www.lgpi.co.in or www.lgchem.com or www.polymerwide.com

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LG Polymers India Pvt. Ltd.

Regd. Office & Works : R.R. Venkatapuram, Visakhapatnam - 530 029, India

CORPORATE IDENTITY NUMBER (CIN) : U25203AP1996PTC025917



Visakhapatnam	91-891-2520455 - 458, Fax: 91-891-2520528
Mumbai	91-22-61085300 - 332, Fax: 91 - 22-61085344
Gurgaon	91-0124-4692700 -11, Fax: 91-0124-4692701
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Chennai	91-44-26650201 Fax: 91-44-43870203
Vijayawada	91-9849170565
Pune	91-020-66487600

After we submitted all documents vide our letter dt 10.05.2019, our case was heard in 128th SEAC meeting dt 20-24th June 2019 and then discussed in 120th SEIAA meeting dt 9th- 10th July 2019. Finally, we got letter No. SEIAA/VSP/IND/VIO/04/2018/971 - 831 dt 12.08.2019 (despatched on 26.08.2019) from SEIAA transferring our case to MoEF&CC and asking us to submit our case through Parivesh Online portal. However, there is no facility for applying On-line through Parivesh portal to MOEF&CC for regularization as window for post facto clearance is closed and thus our case is yet not taken up by MoEF&CC.

We have pursued our case with Ministry of Environment, Forest and Climate Change (MoEF&CC) officials (On 22nd Nov 19) to ascertain how we should go about in the given situation. They have conveyed as under:

SEIAA should transfer entire file as hard copy with following contents:

- Cover letter addressed to Joint Secretary (IA Division), MOEF&CC giving detailed chronology of events till date and copies of all supporting documents such as:
- Copy of Cover letter, Form I & PFR and any Annexures submitted by PP with application dated 12.04.2018
- Copies of EDS raised and reply from Industry
- Agenda and Minutes of Meeting of the 128th SEAC meeting dt 20-24th June 2019, wherein this case was discussed
- Agenda and Minutes of Meeting of 120th SEIAA meeting dated 09th & 10th July 2019 wherein this case was discussed
- Letter for transfer of file to MoEF&CC
- Any other interim correspondence between LG Polymers and SEIAA

The above is necessitated since there is no facility for Transfer of files from SEIAA to MOEF&CC and the window for accepting violation cases on Parivesh portal is closed.

You are requested to kindly do the needful at the earliest and oblige.

Thanking you

Yours Faithfully.

For LG Polymers India Pvt Ltd



Authorized signatory

Encl: - 1) SEIAA letter, Lr No. SEIAA/VSP/IND/VIO/04/2018/971-831 dt. 12.08.19

2) LGPI response letter, dated 23.10.19

	<p>State Level Environment Impact Assessment Authority (SEIAA) Andhra Pradesh Ministry of Environment, Forests & Climate Change, Government of India D.No.33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre, <u>Chalamavari Street, Kasturibaipet, Vijayawada-520010</u></p>
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Lr. No SEIAA/AP/VSP/IND/VIO/04/2018 53

Dt.07.01.2020

To
The Director (IA-II Section),
Ministry of Environment & Forests and Climate Change,
(Impact Assessment Division)
Government of India,
3rd Floor, Vayu Wing, Indira Paryavaran Bhavan,
Aliganj, Jor Bag Road,
New Delhi- 1100030.

Sir,

Sub: SEIAA, Andhra Pradesh - M/s. L.G. Polymers India Pvt.Ltd., at Sy.No.29 to 45, 83/1 and 83/3, Industrial Zone, RR Venkatapuram (V), Pendurti (M), Visakhapatnam District, Andhra Pradesh - Environmental Clearance - Transfer of File to MoEF&CC - Reg.

Ref: 1. Application received through online on 10.05.2019.
2. 128th SEAC, A.P. meeting held on 21.06.2019
3. 120th SEIAA, A.P. meeting held on 09.07.2019.
4. SEIAA/VSP/IND/VIO/04/2018/971-831, dt. 12.08.2019
5. Proposal No. SIA/AP/IND2/24597/2018, dt. 23.10.2019

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Apropos the above, M/s. L.G. Polymers India Pvt.Ltd., at Sy.No.29 to 45, 83/1 and 83/3, Industrial Zone, RR Venkatapuram (V), Pendurti (M), Visakhapatnam District, Andhra Pradesh applied to SEIAA, Andhra Pradesh for grant of Post facto clearance for regularization of existing activities and expansion for as 'B' category case since this industrial site was set up in 1965 and area is a VUDA Notified Industrial Zone as per approved Master Plan 2021 of Visakhapatnam passed in June, 2006.

The application received through online on 10.05.2019 and the same was placed in the SEAC, A.P. & SEIAA, A.P. meetings vide reference 2nd & 3rd cited.

The SEIAA, A.P. recommended to transfer the proposal to MoEF&CC, GoI, New Delhi for further processing.

P.T.O

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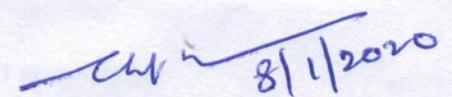
The industry vide reference 5th cited, stated that they have pursued with the MoEF&CC officials on 22nd November,2019 to ascertain the process of transferring of the file as there is no provision for transfer of file through online from SEIAA,A.P. to MoEF&CC. Also the proponent mentioned that a covering letter be addressed Joint Secretary (IA Division), MoEF&CC giving detailed chronology of events till date and copies of all supporting documents.

In this regard, the following is submitted:

1. Copies of EDS raised by SEIAA and reply from Industry.
2. Agenda and Minutes of Meeting of the 128th SEAC meeting dt 20-24th June 2019, wherein this case was discussed.
3. Agenda and Minutes of Meeting of the 120th SEIAA meeting dt 09th & 10th July 2019, wherein this case was discussed.
4. Letter for transfer of file to MoEF&CC.
5. Request letters received by SEIAA from time to time.

In view of the above, the project file of M/s. L.G. Polymers India Pvt.Ltd., at Sy.No.29 to 45, 83/1 and 83/3, Industrial Zone, RR Venkatapuram (V), Pendurti (M), Visakhapatnam District, Andhra Pradesh received vide reference cited (with all relevant documents) is hereby transferred to MoEF&CC, New Delhi to take necessary action.

Yours faithfully,

 8/1/2020

**MEMBER SECRETARY.
SEIAA, AP.**

Copy to:

- ✓ M/s. L.G. Polymers India Pvt.Ltd., at Sy.No. 29 to 45,83/1 and 83/3, Industrial Zone, RR Venkatapuram (V), Pendurti (M), Visakhapatnam District, Andhra Pradesh.

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ANNEXURE - LL**33rd meeting of Expert Appraisal Committee for the proposal involving violation of EIA Notification to be held on 18th–19th May, 2020****REVISED AGENDA**

Instructions: Project Proponents are requested to strictly follow the following instructions:

1. **Brief and presentations and other requisite documents (Annexure I to XII as applicable)** are advised to email to the EAC/Ministry so that the EAC shall examine before start of EAC meeting, scheduled to be held on 18th – 19th, 2020 through Video Conferencing only.

2. It is requested that the project proponent or his/her authorized representative should participate the presentation meeting of EAC through Video Conferencing only (preferably not more than two representatives) who can make a presentation on their behalf on the salient features of the project, the related environmental issues, proposed Environmental Management Plan and also respond to the queries/suggestions of the Committee.

3. NIC, MoEFCC will moderate the Video Conferencing meeting. The Guidelines related to connecting VC is annexed herewith (Annexure XIII). PP will be ready before 10 minutes of the slot allowed to them. If any problem faced please contact Mr Kamal, Moderator, NIC (Mobile No. 8800225087, email- support-ipb@nic.in).

4. Kindly prepare/make the presentation before the EAC. **Copy of Presentation, Brief and Annexure in word format as applicable shall be forwarded to the EAC/Ministry latest by May12, 2020 through email. Failing which the Committee will not consider the project.**

Day 1: 18th May, 2020

Time: 11.00 AM to 4.30 PM

33.1. Opening remarks of the Chairman

33.2. Confirmation of the minutes of the 32nd meeting held on 22nd-23rd April, 2020 at Indira Paryavaran Bhawan, JorBagh Road, New Delhi

33.3. Proposal for consideration

S. No.	Proposal
33.3.1 (Slot 11:00 AM to 12:30 PM)	Proposed manufacturing unit of bulk drugs and intermediates at Plot No.E12,Chincholi MIDC, TalukMohol, District Solapur (Maharashtra) by M/sSreeKartikeyaKameshwari Industries – Further consideration for Environmental Clearance [IA/MH/IND2/110313/2018 dated 14.10.2018] [F. No. 23-130/2018-IA.III]
33.3.2 (Slot 12:30 AM to 1:30 PM)	Expansion of Grain based Distillery from 25 KLPD to 60 KLPD at Sy. No. 284 (B),Subhash Nagar, Village Gaurgaon, TalukaKallamb, District Osmanabad(Maharashtra) by M/s Adlers Bio-Energy Limited - Terms of Reference [F. No. J-11011/422/2011-IA.II(I)]

(Slot 1:30 PM to 2:30PM)	Lunch Break
33.3.3 (Slot 2:30 PM to 3: 30 PM)	Marble mining project (ML Area 51.0109 Ha) at Villages Zarivav, Khokharbilly, Koteswar&Chikla, Tehsil Danta, District Banaskantha (Gujarat) by M/s Hindustan Marble Pvt. Ltd. – Re-consideration for Terms of Reference [IA/GJ/MIN/66906/2017 dated 23.07.2017] [F. No. 23-173/2018-IA.III (V)]
33.3.4 (Slot 3:30 PM to 4: 30 PM)	Discussion on any other item with permission of the Chair.
Day 2: 19th May, 2020 <u>Time: 12.00 AM to 5.30 PM</u>	
33.4.1 (Slot- 12:00 AM to 12:45 PM)	Proposed expansion of Insecticide (Insecticide Active Ingredients) production plant at Brahmanpara, P.O. & P.S. - Haripal, District Hooghly, west Bengal by M/s Solex Chemicals Pvt. Ltd. – Terms of Reference [IA/WB/IND2/70221/2017] [F. No. J-11011/511/2017-IA-II(I)]
33.4.2 (Slot- 12:45 PM to 1:30 PM)	Sponge Iron Plant (4X100 TPD), Induction furnace (2×12T +1X12T), Rolling Mill (90,000 TPA) and 18 MW power plant [6 MW WHRB, 2 MW Coal char based and 10 MW Coal based] of M/s Jharkhand Ispat Private Limited located at Hesla, P.O. Argada, District Ramgarh, Jharkhand – Terms of Reference [F. No. J-11011/41/2013-IA.II(I)]
(Slot 1:30 PM to 2:00 PM)	Lunch Break
33.4.3 (Slot- 2:00 PM to 2:45 PM)	Kadadiha China Clay Mine of M/s Jagdish Mines & Metals Pvt. Ltd. For exploration of China Clay occurring in the ML area of 367.058 Ha located at villages Kadadiha No.26, Khandabandha No. 43, Kudarbisida No.45 and Rugudi No. 44, Tehsil Jashipur, District Mayurbhanj, Odisha - Terms of Reference [IA/OR/MIN/73975/2018 dated 04.04.2018] [F. No.23-233/2018-IA.III (V)]
33.4.4 (Slot 2:45 PM to 5.00 PM)	Manufacturing of Polystyrene and Expandable polystyrene total capacity (from 415 TPD to 655 TPD) by M/s. LG Polymers India Pvt. Ltd. located at Village RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh– Terms of Reference [F. No. J-11011/113/2020-IA-II(I)]
33.4.5 (5.00 PM to 5.30 PM)	Discussion on any other item with permission of the Chair.

Important Note:

1. The project proponents are requested to send the project details prescribed format in Annexure (I-XII), as per applicability (in word format only). Specifically, Annexure-XI or XII is mandatory for EC application.

(i) The project proponents should submit the Form-1, Pre-feasibility report for TOR along with other requisite documents, Environment Impact Assessment Report, Form - 2 for EC application, public hearing report, queries subsequently raised by the Ministry, if any including details of the court matters/Orders of the Court pertaining to the project if any, in original, duly signed by the company authorized signatory for Environmental Clearance, well in advance before meeting to Ministry's project section or utmost at the time of presentation, without which the proposal will not be considered.

Note: Submit a copy of each of above documents - Hard and Soft Copies (Pen Drive) to the Member secretary, Violation (Note: Not by Name) by speed post so as to reach well in time. Soft copies of above shall also be emailed at kodali.rk@gov.in, mohit.saxena@gov.in and mefcc.ia3@gmail.com

(ii) Compliance Report from Regional Office, MoEF&CC (Applicable for projects already having EC).

(iii) The above all documents are required to be forwarded to the Chairman/Members of the Expert Appraisal Committee along with soft copy.

2. All the documents including the hard copy of the presentation material should be legible and printed on both sides on ordinary paper. **In case the members of the Expert Appraisal Committee do not receive the proposals/documents before the meeting, the Committee will not consider the project.**

3. The Project Proponent or his or her authorized representative /consultant should avoid delivery of documents by hand and seeking meeting with Chairman/Members. Members are also requested to discourage/ avoid the meeting with the PP/ consultants.

4. Further, it is requested that the project proponent or his/her authorized representative should attend the presentation meeting of EAC. They may also depute senior officers from the company (preferably not more than two representatives) who can make a presentation on their behalf on the salient features of the project, the related environmental issues, proposed Environmental Management Plan and also respond to the queries/suggestions of the Committee.

5. Any changes/modification with respect to the Agenda, Venue etc., would be indicated in Ministry's website. You are also requested to keep track of the status of your project from the Ministry/s Website i.e., www.envfor.nic.in / www.envclearance.nic.in.

6. Kindly send a **brief write up/executive summary of 1-2 pages (in Word Format only), KML/Shape file to the Member Secretary at kodali.rk@gov.in, mohit.saxena@gov.in and mefcc.ia3@gmail.com and the project details in the enclosed formats (Annexure-I to XII as applicable) by 11. 04.2020.** Kindly indicate the agenda no. in the e-mail and also on the first page of the documents circulated during the meeting.

7. No consultant is permitted into the meeting who has no accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) according to the MoEF OM dated 2nd December, 2009.
8. **Important note: Submission of Affidavit with respect to Hon'ble Supreme Court order dated 02nd August, 2017, letter of intent for mining lease and certified production details from DMG is compulsory during EAC meeting for non-coal mining projects.**
9. The Consultant shall include an **undertaking in the EIA report that the prescribed TOR have been complied with and that the data submitted is factually correct** and also an undertaking shall be submitted owning the contents (information and data) of the EIA report.
10. Number of persons allowed for submission before EAC will be **not more than five**, including twofrom Project proponent, two from accredited consultant and one for assistance to the team.
11. EIA Coordinator, who has prepared EIA/EMP report, shall present before EAC during presentation.
12. As per the compliance to the recommendations of CAG vide OM No. J-11013/71/2016-IA.I(M) dated 25th October, 2017, the following may ensure:
 - (i) Break-up of the capital and recurring cost of the EMPs along with the timeline for incurring the capital cost.
 - (ii) Details of the name and number of posts to be engaged by the project proponent for implementation and monitoring of environmental parameters should be submitted.
 - (iii) An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.

List of the Members

1. Dr. S.R. Wate, Director (Retired), National Environmental Engineering Research Institute, Nagpur; E-mail: satishwate@gmail.com
2. Dr. G.V. Subrahmanyam, Advisor (Retired), MoEFCC, C-22, Kendriya Vihar, Sector 51, Noida – 201301; E-mail: sv.godavarthi@gmail.com
3. Dr. A.L. Ramanathan, Professor, School of Environmental Sciences, Jawaharlal Nehru University, New Mehrauli Road, New Delhi – 67; E-mail: alrjnu@gmail.com
4. Dr. M.V. Ramana Murthy, Advisor, ICMAM, NIOT Campus, Pallikarai, Chennai - 600 100; E-mail: ramana2865@gmail.com
5. Shri K Gowarappan, Plot No. 6, Ganesh Avenue, II Street, Sakthi Nagar, Porur, Chennai – 600116; E-mail: gowrappanmail@gmail.com
6. Dr. Dilip S. Ramteke, Scientist (Retired), NEERI, 64-B, Adhyapak Layout, Behind Anusaya Mangal Karyalya, Near Hingana T Point, Nagpur - 440 036; E-mail: dsramteke@rediffmail.com
7. Dr. Poonam Kumria, Professor, Geography Department, Miranda House, University of Delhi, Delhi – 7; E-mail: poonamkumria@yahoo.co.uk
8. Dr. Bharat Jain, Dy. Chief Engineer (Retired), GIDC Gujarat Cleaner Production Centre, Udyog Bhavan, Gandhinagar – 11; E-mail: jain.bharat1953@gmail.com
9. Dr. Subrata Maity, Professor (Retired), BCKV (Agriculture University), B2/210 Kalyani, Nadia - 741235 (West Bengal); E-mail: subrata.maity@gmail.com
10. Shri Ashok Agrawal, 405, Sector-31, Gurugram - 122 001 (Haryana); E-mail: ashok_bdk@yahoo.com
11. Shri Raghu Kumar Kodali, Scientist F, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, 5th Floor, Vayu Wing, JorBagh Road, Aliganj, New Delhi -3; E-mail: kodali.rk@gov.in (**Don't Send Hard copy to Member Secretary**)

(Note: Please send Hard copy (documents) to) : Section Officer, IA-III Section, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, 6th Floor, Akash Wing, JorBagh Road, Aliganj, New Delhi -3)

Minutes of 33rd meeting of Expert Appraisal Committee for the proposal involving violation of EIA Notification, 2006 held on 18th - 19th May, 2020 through video conferencing

Day 1: 18th May, 2020

Time: 11.00 AM to 04:30 PM

33.1. Opening remarks of the Chairman

33.2. Confirmation of the minutes of the 32nd meeting held on 22nd- 23rd April, 2020 at Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi

33.3 Proposal for consideration

33.3.1 Proposed manufacturing unit of bulk drugs and intermediates at Plot No. E12, Chincholi MIDC, Taluk Mohol, District Solapur (Maharashtra) by M/s Sree Kartikeya Kameshwari Industries – Further consideration for Environmental Clearance [IA/MH/IND2/110313/2018 dated 14.10.2018] [F. No. 23-130/2018-IA.III]

Details submitted by the Project Proponent

- i. The Project Proponent and the Accredited Consultant M/s. Equinox Environments (I) Pvt. Ltd. made a detailed presentation on the salient features of the project and informed that:
- ii. The proposal is for Environmental Clearance (EC) to the proposed project of establishment of Bulk Drugs and Intermediates Manufacturing Unit at Plot No. E-12, Chincholi MIDC, Tal: Mohol, Dist: Solapur, Maharashtra by Sree Kartikeya Kameshwari Industries (SKKI).
- iii. Standard ToR has been issued by Ministry vide letter no. 23-130/2018-IA-III (V) dated 20th July, 2018.
- iv. All Bulk Drugs and Intermediates Manufacturing Industry are listed at S.N. 5 (f) of Schedule of Environmental Impact Assessment (EIA) Notification under category 'B'. But due to applicability of General Condition i.e. the Great Indian Bustard (GIB) Sanctuary is located within 5 Km of the project area. Hence, the project is appraised at Central Level by Expert Appraisal Committee (EAC) as category A as per Ministry of Environment, Forest & Climate Change Notification No. S.O. 1598 (E), dated 25.06.2014.
- v. Total plot area acquired by industry is 2.405 Ha.
- vi. Industry will develop an area of 0.88 Ha under green belt during establishment of proposed project which accounts for 36 % of total plot area.
- vii. The estimated cost for proposed project is Rs. 5.28 Crores. Total capital cost earmarked towards environmental pollution control measures is Rs. 2.3 Crores and the Recurring cost (operation and maintenance) will be about Rs. 0.45 Crores per annum.
- viii. Total Employment is of 100 persons as direct as well as indirect under proposed SKKI project. Industry proposes to allocate Rs. 0.15 Crores @ of 2.84 % of total investment towards Corporate Environmental Responsibility.

12. Applicability of General Condition & Status of SEIAA:**Applicability of General Condition:**

1. Protected areas notified under the Wildlife (Protection) Act, 1772 : Nil, Not applicable
2. Critically Polluted Areas as identified by CPCB : Nil, Not applicable
3. Eco Sensitive Areas as notified under section 3 of the E (P) Act, 1986 : Nil, Not applicable
Inter –State Boundaries and Inter International Boundaries: Yes, Inter –State Boundary with Jharkhand State at 9.0 Kms in the WNW of Project Site.

13. Aravalli/Doon Valley/ Western Ghats/Eco-Sensitive area:

The project area does not fall under Aravalli / Doon Valley/ Western Ghats/Eco-Sensitive area.

14. Project Cost & Employment:

Estimated Project Cost: The **capital** cost of the project is Rs.154.551 Lacs. The capital cost covers the expenditure incurred towards Exploration, Mine development already done and proposed, cost involved towards land, building, infrastructure, plant and machineries, statutory dues etc.

Cost towards Environmental Control: The capital cost and recurring cost (per annum) for the environmental facilities is Rs. 34.00 lacs.

Employment: Total requirement of employment is 188 numbers. Out of them, 18 numbers are Management & Supervisory Personnel category and 170 numbers are Workers (Skilled/Semi-skilled/Un-skilled) categories.

Observations and recommendations of 12th EAC meeting held on 28th-29th August 2018:

Proponent requested to defer the proposal.

Observations and recommendations of 32nd EAC meeting held on 22nd -23rd April, 2020

Project Proponent did not attend the meeting.

Observations and recommendations of 33rdEAC meeting (present meeting) held on 18th -19th May, 2020

Proposal was not discussed on technical aspect by the EAC as PP has not submitted the valid mining lease documents. EAC therefore **deferred** the project for submission of following:

1. Valid mine lease document/LOI.
2. Revised affidavit as per the Ministry's OM dated 30.05.2018
3. Hard copies of all the documents duly signed be submitted to the Ministry
4. Past certified production details including silica sand and calcined clay.
5. Details of plantation including spacing, location, period may be mentioned.

33.4.4 Manufacturing of Polystyrene and Expandable polystyrene total capacity (from 415 TPD to 655 TPD) by M/s. LG Polymers India Pvt.Ltd. located at Village RR Venkatapuram Village, Pendurti Mandal, Visakhapatnam District, Andhra Pradesh–Terms of Reference [F. No. J-11011/113/2020-IA-II(I)]

The Expert Appraisal Committee (EAC) discussed the proposal in terms of the provisions of Ministry's Notification 14th March 2017 for manufacturing of Polystyrene and Expandable polystyrene (total capacity from 415 TPD to 655 TPD) by M/S LG Polymers India Pvt. Ltd, Visakhapatnam, AP. The committee noted that the instant agenda was for expansion of Polystyrene and Expandable Polystyrene from 415 TPD to 655 TPD. However, EAC in view of the recent incident, decided to appraise the project for its existing capacity of 415 TPD only, operating without obtaining prior Environmental Clearance (EC) as per the EIA Notification 2006 and as amended thereof, since 2008. Further, the Committee also noted that the PP had carried out change in product mix in the existing facility which also requires prior EC as per EIA Notification 2006.

The committee also noted that initially the project proponent submitted the proposal (ToR application) to SEIAA, AP on 12.04.2018 considering it as Category B Project under Ministry's Notification S.O. 804 (E) dated 14.03.2017. However, SEIAA, AP transferred the proposal to MoEF&CC vide letter dated 07.01.2020, considering it as category A project and same was received in the Ministry on 17.03.2020.

The committee during the deliberations also considered the accident due to leakage of styrene gas that occurred on 7th May 2020 at 2.40 AM due to which 12 people reported to have died and about 580 people were admitted in various hospitals.

Further, the committee also have taken into cognizance the suo-moto action initiated by the Honourable NGT, the cases being heard in the Honourable High Court of AP, NHRC and the committees constituted by the various authorities to investigate into the accident and post-accident scenario.

Recommendations of EAC

The committee after detailed deliberations and thorough examination of the proposal apart from considering the above facts, recommends the instant proposal to be **deferred** till the outcome of Hon'ble NGT, Hon'ble High Court of AP and reports of Committees constituted by NGT, MOEFCC, Gov. of AP, NDRF, CPCB, NDMA and NEERI is made available to the committee for facilitating proper appraisal of the project which will be restricted to existing production capacity (415 TPD) as mentioned above being operated without Prior EC.

33.4.5 Discussion on any other item with permission of the Chair.

33.4.5.1 Expansion of Hospital Complex "Pushpawati Singhanian Hospital & Research Institute" at Press Enclave Marg, Sheikh Sarai, Phase-II, New Delhi by M/s Pushpawati Singhanian Hospital & Research Institute - Environmental Clearance [IA/DL/MIS/85531/2018 dated 20.12.2018] [F. No. 23-134/2018-IA.III (V)]

EAC observed that earlier the proposal was considered in the 27th meeting held during 31.10.2019 - 01.11.2019. EAC in the 27th meeting recommended the proposal for grant of Environmental Clearance subject to compliance of specific as well as standard environmental conditions applicable to the project. EAC in the said meeting recommended for an amount of Rs. 10,791,000/- towards Remediation plan and Natural and Community Resource Augmentation plan to be spent within a span of three years towards the activities proposed under the environmental components.

EAC observed that above proposal is referred back to violation sector by the Infra sector for reconsideration on the number of the activities proposed under remediation as well as natural and community resource augmentation plan. Accordingly, PP was advised to submit the limited number of activities under remediation as well as natural and community resource augmentation plan but focussed

From: Bhargava, PSS
Sent: Monday, 9 November 2020 10:57 AM
To: 'raysatyalipsu@gmail.com'
Cc: Berry,Anuj; Safaya, Chaitanya; Chakraborty, Abhik; Agrawal, Aryan; @SAM Project Vizag
Subject: OA No. 73 of 2020, National Green Tribunal (Principal Bench, New Delhi) | Service of response on behalf of LG Polymers India Pvt. Ltd [SAM-DELHI.FID1197555]

Dear Satyalipsu Ray,

Good morning.

This is with reference to the captioned matter.

We appear on behalf of LG Polymers India Pvt. Ltd (LGPI).

As directed by the Hon'ble Supreme Court of India vide order dated 29.10.2020 in CA No. 2665 of 2020 and 2816 of 2020, a response is being filed on behalf of LGPI to the reports dated 17.05.2020 and 28.05.2020 of the committee appointed by the Tribunal vide its order dated 08.05.2020.

The response on behalf of LGPI (in two volumes) to the aforementioned reports is available for download at the following link:

[\[https://amsshardul.sharefile.com/d-s1bf850adebf443e\]](https://amsshardul.sharefile.com/d-s1bf850adebf443e)

Please treat this email as service on behalf of LGPI.

Thanks & regards,

P S S Bhargava
 (on behalf of Mr. Anuj Berry,
 Shardul Amarchand Mangaldas & Co,
 Advocates for LG Polymers India Pvt. Ltd)



PSS Bhargava
 Associate

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**MORE THAN A
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 EXCELLENCE**



From: Bhargava, PSS
Sent: Monday, 9 November 2020 10:53 AM
To: 'advrajkumar@gmail.com'; 'adv_rajkumar@yahoo.com'
Cc: Berry,Anuj; Safaya, Chaitanya; Chakraborty, Abhik; @SAM Project Vizag; Agrawal, Aryan
Subject: OA No. 73 of 2020, National Green Tribunal (Principal Bench, New Delhi) | Service of response on behalf of LG Polymers India Pvt. Ltd [SAM-DELHI.FID1197555]

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P S S Bhargava
 (on behalf of Mr. Anuj Berry,
 Shardul Amarchand Mangaldas & Co,
 Advocates for LG Polymers India Pvt. Ltd)



PSS Bhargava
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**MORE THAN A
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From: Bhargava, PSS
Sent: Monday, 9 November 2020 10:56 AM
To: 'sreyas.tvsr@gmail.com'
Cc: Berry,Anuj; Safaya, Chaitanya; Chakraborty, Abhik; Agrawal, Aryan; @SAM Project Vizag
Subject: OA No. 73 of 2020, National Green Tribunal (Principal Bench, New Delhi) | Service of response on behalf of LG Polymers India Pvt. Ltd [SAM-DELHI.FID1197555]

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PSS Bhargava
 Associate

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