

President: Mr. S.N. Pandey
Managing Director
Chennai Petroleum Corporation Ltd.
Chennai

Vice President: Mr. M. Rajavel
CEO / President
Kothari Petro Chemicals Ltd.
Chennai

Secretary: Mr. P.S. VENKATARAGHAVAN
Supreme Petrochem Ltd.
Factory Manager
Sr.General Manager-(Chennai Works)

Joint Secretary:
Mr. THANGAPERUMAL ALAGARSAMY
Head-LPG, IOT Infrastructure & Energy
Services Ltd., Chennai

Treasurer: Mr. R. MADHAVAN
Deputy Manager (Finance)
Indian Additives Ltd,
Manali, Chennai 600068

Annual General Meeting of MIA

The Annual General Meeting of Manali Industries Association held at CPCL's Corporate Office, Teynampet on 21.11.2017.

Some of snaps of AGM:



Farewell Party

A Farewell Party meeting was organized at "The SAVERA HOTEL" on 24.01.2018 to Felicitate to Mr. Gautam Roy MIA-President, (Managing Director, CPCL)

Some of snaps of AGM:



Message from Secretary's Desk



Greetings to all Members,

It's a pleasure interacting with all of you through MIA.

Manali Industries Association (MIA) has seen great personalities handling this portfolio in the past. Personally, It is a great honour for me in working as Secretary for MIA.

Thanks to all members for the faith in the New team.

I would also like to thank all new member industries who have joined our association recently.

Last couple of months, MIA members are meeting and sharing their experiences and this has resulted in the rejuvenation of ERC (Emergency Response Center).

Good practices in industries are constantly shared and the recent ones have been the safety meet at M/s. Toshiba and participation of observers from member industries at the monthly mock drill conducted by CPCL.

I am sure more such interactions will continue in future and add to our experience.

On behalf of the office bearers of MIA, I solicit the co-operation of all members in making MIA a proud Industrial association.

P.S.Venkataraghavan

*Secretary-Manali Industries Association,
Sr.GM-Supreme Petrochem Ltd.,*

NEW OFFICE BEARERS MEETING

New office bearers of MIA met at TPL along with previous committee members to chalk out programs for the new committee. It was decided to restart the ERC (Emergency Response Center), arrange periodic training among member industries to share the good practices and address common issues like metro water price hike etc.,



IAL TRAINING

MIA, Indian Chemical Council and IAL jointly conducted Half-day Seminar on "CHEMICAL BURNS MANAGEMENT – STOPPING INCIDENTS FROM BECOMING ACCIDENTS" on 6 December 2017 at Indian Additives Ltd.



கழிவு மேலாண்மை

உயிரினங்களைச் சுமக்கும்
உன்னத பூமியின்று
கழிவுகளைச் சுமக்கும்
குப்பைத் தொட்டியானது.



A. Rajakumar
Manager – Safety, TPL

இயற்கையை எரித்து
குளிர் காய்கிறோம்.
எரிவதை அணைக்க
பனிக்கட்டியைக் கரைக்கிறோம்.

கழிவு மேலாண்மையே
கடைசி ஆயுதம்.

குப்பைகளின் சூட்டில்
பூமி சூடானது.
ஓசோன் மூடியில்
ஓட்டை விழுந்தது.

மட்கும் குப்பைகளை
எருவாக்கிடுவோம்.
மட்காத குப்பைகளை
மறுசுழற்சி செய்திடுவோம்.

அழிவின் விளிம்பிலிருந்து
அகிலத்தைக் காத்திட

மாசற்ற உலகினை
நேசமுடன் உருவாக்கி
வரும் தலைமுறைக்கு
விட்டுச் செல்வோம்.

- அ. ராஜகுமார்

ERC

ERC committee members met on 15 Feb 2018 at TPL. It was decided to restart the existing ERC at TPL complex with some minimum facilities like telephone, Computer desktop, etc., and collect/assemble all details pertaining to chemicals handled by member industries.



Safety isn't just a slogan, it's a way of life !!

Zero Liquid Discharge (ZLD)

By **T.Sureshkumar**, Sr. Executive, HSE, Supreme Petrochem Ltd., Manali, Chennai.



ZLD or Zero liquid discharge is a term frequently used in industries these days.

A well practiced ZLD can be useful in more than one way:

1. Reduces water pollution
2. Encourages recycling thereby reducing dependence on ground water/water from lakes & rivers
3. Industries will be encouraged to think out of the box for finding solutions to tackle problems at source thereby adopting newer /efficient technologies.

ZLD in general consists the following components:

- **Clarifier and/or Reactor** to precipitate out metals, hardness, and silica
- **Chemical feed** to help facilitate the precipitation, flocculation, or coagulation of any metals and suspended solids
- **Filter press** to concentrate secondary solid waste after pretreatment or alongside an evaporator
- **Ultra Filtration (UF)** to remove all the leftover trace amounts of suspended solids and prevent fouling, scaling, and/or corrosion down the line of treatment
- **Reverse osmosis (RO)** to remove the bulk of dissolved solids from the water stream
- **Brine concentrators** to further concentrate the reject RO stream
- **Evaporator** for vaporizing water in the final phases of waste concentration before crystallizer.

HOW does ZLD work?

Pretreatment

Pretreatment is used to remove simple things from the wastewater stream that can be filtered or precipitated out, conditioning the water and reducing the suspended solids and materials that would otherwise scale and/or foul following treatment steps. Sometimes this step requires the addition of caustic soda or lime to help with **coagulation**, a process where various chemicals are added to a reaction tank to remove the bulk suspended solids and other various contaminants. When coagulation is complete, the water enters a **flocculation** chamber where the coagulated particles are slowly stirred together with long-chain polymers. Then in **Primary Clarifier** a very slow settling process occurs, the water rises to the top and overflows at the perimeter of the clarifier, allowing the solids to settle down to the bottom of the clarifier into a sludge blanket. The solids are then raked to the center of the clarifier into a cylindrical tube where a slow mixing takes place and the sludge is pumped out of the bottom into a sludge-handling or dewatering operation.

Bio Aeration tank

Here Microorganisms called activated sludge use small particles and dissolved organic matter not removed in primary treatment, as food. In aerobic treatment, these micro organisms require air to live and hence air is pumped into the tank through fine diffusion. Microorganisms in this *aeration tank* use the dissolved and particulate organic matter as food, producing more microorganisms. Thus the waste materials that left the primary clarifier are converted into microorganisms which can be collected and separated from the water in the next step.

Secondary clarifier

Secondary clarifier operates in the same manner as the primary clarifier. Here settling of micro organisms take place.

Some of the solids collected in the secondary clarifier (*return activated sludge*) are sent back to the aeration tank to treat wastewater and the excess (*waste activated sludge*) is pumped to another location in the plant for further treatment. The clean water that flows out the top of the clarifier is sent for sand/dual media filtration and disinfection

Ultrafiltration (UF)

Ultrafiltration is used after the above treatment steps for preventing untreated water to go through the semi permeable membranes.

Reverse Osmosis (RO)

Water from UF is sent to R.O. for further treatment and permeate at this step is better still.

Treated water is called as permeate and the other stream of water which contains higher TDS is taken out as rejects for further treatment.

Brine concentrators

Brine concentrators, on the other hand, are also used to remove dissolved solid waste but they are usually able to handle brine with a much higher salt content than RO. They are pretty efficient for turning out a reduced-volume waste.

Evaporation

After the concentration step, the next step is generation of solids, which is done through **thermal processes or evaporation**. Here you evaporate all the water off. Adding acid at this point will help to neutralize the solution so, when heating it, you can avoid scaling and harming the heat exchangers. **Deaeration** is often used at this phase to release dissolved oxygen, carbon dioxide, and other non condensable gases.

The leftover waste then goes to a **crystallizer**, which continues to boil off all the water and are filtered out as a solid.

Challenges in using ZLD:

- ZLD requires skilled manpower & good hardware to run efficiently
- Treatment cost is high (**can vary between Rs 80 /KL to Rs 200/ KL**)
- Carbon foot print is present because of high energy consumption

What should Industry do:

- Attack problem at source and adopt technologies and take measures to improve their process so that effluent quality is better
- Adopt proper pre-treatment in order to bring down pressure on performance at UF and RO stages
- Install right hardware and maintain them properly
- Train manpower by involving and making them aware of the hazards of substandard treatment

Conclusion:

A well designed ZLD program can be a boon to industries Industries should constantly try to improve their standards and look beyond regulations when it comes to adoption of good practices.

Safety.... Do it.... Do it right..... Do it right now !!

JDISH-MEETING

Establishing ERC (Emergency Response Centre) in Manali, a meeting is organized with Mr. Jayakumar-Jt. DISH-Tiruvottiyur, with ERC committee members at Supreme Petro Chem Ltd, on 9th February 2018.



TOSHIBA

A Safety & Environment meeting with Factory Tour was organized on 04.04.2018 at Toshiba JSW Power Systems Pvt Ltd, Manali



View of MIA Members visiting to Factory



Bio Diversity Explanation



Introduction by our Managing Director Mr. Y. Inayama

SAFETY DAY CELEBRATION'S @ KOTHARI PETROCHEMICALS LTD.

The National Safety Day/Week Campaign is celebrated in India every year (organized by the National Safety Council) to commemorate the establishment of this event, 4th of March as well as enhance the safety awareness among people. It is celebrated with great enthusiasm all over the country to improve awareness among the employees to prevent the industrial accidents by exhibiting widespread safety awareness programs in the industrial sectors. At Kothari Petrochemicals Ltd. a month long safety events held by involving all categories of employees.



Mr. R. JAYAKUMAR, Additional Director (Directorate of Industrial Safety and Health) Presided over the function and distributed the prizes to the safety day competition winner's on 06th April '18.



Safety is a state of mind – Accidents are an absence of mind