ISSUE 13 September 2022

BIMONTHLY NEWSLETTER ON PROCESS SAFETY

SAFEXCELLENCE

THIS ISSUE

Serious Accidents in July-August 2022

Two injured in fire accident at oil firm in Visakhapatnam

Two workers received burn injuries in a fire accident at Pyrotech Industries in Bonangi village of Parawada mandal on the outskirts of Vizag in the early hours of Monday.

Chemical plant catches fire in Maharashtra's Palghar

Palghar: A massive fire broke out in a chemical factory in the Tarapur area of Palghar on late Tuesday.

EDITORIAL

Work on the overall proliferation of the organisation through safety consciousness amidst a plenty of atrocities the world is facing like war-mongering, probable recession, economic collapse, unforeseen climate change, enormity of flood, crops damage

First and the foremost, the Safexcellence team sincerely wishes you and your family to keep the health intact and protect yourself against lots of atrocities looming and engulfing the world gradually. The virus covid-19 seemingly has been sprawling across the globe with mysterious mutants along with many other diseases and infections being reported every other day from some nooks of the world. In India, cases are being reported in the populated metro cities with the reports of deaths. On the other hand, the war in the name of Russia's so- called invasion in Ukraine is still continuing full-fledged with its obvious consequence of death toll and trails of destruction that it left behind. To add to it, serious war like tension has proliferated between China and Taiwan since Ms Pelosi's visit to the island country of Taiwan. Moreover, incorporation of new ballistic missiles and probable use of nuke weapons are apprehended with days in those parts of the world along with scarcity of food, economic collapse, disruption of export import, failure of supply chain logistics and fear of upcoming probable recession and above all, people's suffering in every possible mean. It is imperative that all of us should continue to follow the laid down protocols as precautionary measures.

The vaccination drive is underway, and we trust the concerted efforts from all quarters enabling us to get rid of this worst phase. Another concerned area is the escalation in industrial accidents (Fire – Explosions - Toxic Gas Release) in India.

The data collected by Safexcellence team shows 14 accidents this year between July to Aug taking death toll of 91 and 501 injuries. This implies every other day there is one accident resulting in one death and two injuries.

This magazine offers you the details of ghastly industrial accidents, informative detail on PSM issues, new initiatives of CoE and the activities carried out under the aegis of CoE.

To counter this trend, chemical manufacturers must immediately re-evaluate their plant risk posed by the current hazards, consider adaptive actions to reduce and bring the risk down to the acceptable region wherever required and prepare changes for future as well as meditative moves to address the root causes to secure long term solution. Improving resilience by adaptive actions to correct these root causes should be a strategic priority. This Safexcellence issue brings forth two special articles along with the regular features.

Trust me that you will surely relish this issue with several kinds of varieties in articles. Safexcellence will feel happy in accepting your precious comments and valuable suggestions with a view to continuously feeding you thoughtful information of your preference.

CoE ACTIVITIES

Basic Awareness training program on Fire & Life Safety for School

SRICT સેન્ટર ઓફ એક્સેલન્સ શાળાના વિધાર્થીઓ માટે અગ્નિ અને જીવન સુરક્ષા પર મૂળભૂત જાગૃતિ કાર્યક્રમનું આયોજન કરાયું હતુ.

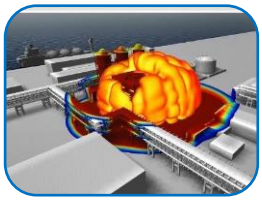
JUL 29, 2022 ankleshwar, bharuch, CMO, GUJRAT, PMO, ROTRY COLLEGE, SCHOOL, SURAT, UPL UNIVERSITY, VALIA

The Centre of Excellence (COE) at Shroff S. R. Rotary Institute of Chemical Technology (SRICT) Ankleshwar organized work place and Life Safety training program for the school students of CM Academy, Ankleshwar and Jay Mataji Vidhya Mandir, Valia. This basic awareness training program included the fundamentals of causes & sources of fires in the work place and how to prevent it. They were also explained about the safety practices in the Laboratory, assembly buildings, along with fire prevention techniques & mitigating/preventing equipment available. In all total 150 students had actively participated in this awareness training program.

Successfully Completed Projects by CoE

A number of projects from different industries have been completed on the following objectives

- Dispersion Study for F&G Mapping
- 3D Modelling, Consequences Analysis for various toxic and flammable chemicals
- Particulate Matter (PM10) Dispersion Study
- QRA Study for various toxic and flammable chemicals
- PHA Studies including HAZOP



[Madhya Pradesh: Eight dead, 5 injured in Jabalpur hospital fire]

At least eight people, including four patients, were killed and five others suffered injuries after a fire broke out at a hospital in Madhya Pradesh's Jabalpur on Monday.

[Two killed in fire accident at commercial complex in Chennai]

CHENNAI: Two men who were engaged to lay carpets at an electronic shop in Greams Road near Thousand Lights were killed in a fire in the wee hours of Sunday.

[fire at Cuban oil facility]

A fire set off by a lightning strike at an oil storage facility raged uncontrolled in the Cuban city of Matanzas.

NFPA 70E: Standard for Electrical Safety in the Workplace

Working with and around live energy isn't for the faint of heart. In energized environments, workers are most likely to encounter arc-flash, shock, and arc-blast hazards. It's for this reason that the NFPA 70E standard was created. This live energy-focused standard strives to keep workers safe by reducing the risks involved with electrical systems and circuits. Any business that works with live energy are required to follow NFPA 70E.

What is NFPA 70E?

The NFPA 70E standard was designed by the National Fire Protection Association (NFPA) for safety-related work practices regarding electrical energy. These requirements are designed to protect workers by reducing risks of major electrical hazards. The NFPA 70E standard stems from an OSHA request to build a standard that would help employers avoid workplace injuries and fatalities due to electricity-related accidents and helps businesses comply with OSHA standards 1910 and 1926.

The NFPA 70E instructs safe work practices for electrical construction and maintenance, but not how to design electrical systems.Since the 70E standard covers electrical safety in the workplace, it applies to every business you can think of: grocery stores, universities, cafes, libraries, etc. Despite the fact that this standard applies to countless types of industry, NFPA 70E is most often enforced in manufacturing plants, factories, warehouses, and worksites - places where electrical construction and maintenance consistently happens.

The scope of NFPA 70E is narrow in that its focus is solely on three kinds of hazards:

- Arc-flash
- Electrocution
- Arc-blast

These dangers are the entire purpose for NFPA 70E. Other worksite-related hazards (ladder best practices, scaffolding, hazardous material, etc.) fall under the umbrella of OSHA construction safety regulations.

The Electrical Safety Strategy

To keep your facility free of electric energy-related accidents, NFPA 70E recommends the following practices:

- Shut power down. It's important to work in a de-energized environment, though this isn't always possible.
- Get proper permit. Have person in charge (manager, foreman, customer, property Management Company, etc.) sign an Energized Electrical Work Permit.
- Wear PPE. Personal protective equipment (PPE) helps protect from catastrophic injury in the case of fire, electrocution, or shock. Examples of PPEs are flash suits, face shields, or flame-resistant clothing.

Worker treated for burns after 'massive' explosion in Sydney industrial area

A man has suffered serious burns after a massive explosion at a council depot in Sydney's southwest.

Bihar: Six dead in Saran district after multiple explosions at an illegal firecracker factory run by one Reyaju Miyan

On Sunday (24 July 2022), several explosions occurred in an illegally operating fireworks factory in Bihar's Chhapra city in Saran district.

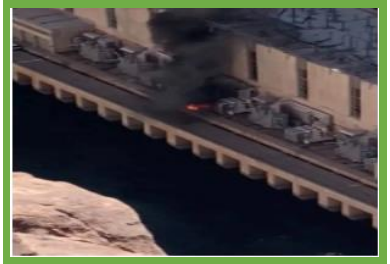
9 Russian warplanes destroyed in Crimea blasts

Russia denied any aircraft were damaged in Tuesday's blasts - or that any attack took place.

One killed, nine injured in Missouri gas explosion

One person was killed and nine other were injured after a gas explosion rocked a home in US state Missouri.

Transformer explodes at Hoover Dam



A few visitors, who were enjoying the view of the Hoover Dam, were in for a surprise when an explosion occurred at one of its transformers.

Major fire at chemical facility

According to the reports, the fire occurred at ChemMasters, producing concrete and mortar.

LOTO System

If you haven't yet implemented a Lockout/Tagout (LOTO) system into your facility, now's the time. LOTO systems help save workers from severe injuries and death. LOTO systems are simple: you use locks and tags to literally lock (when possible) power switches when maintenance is being performed.

If switches cannot be locked, you place a tag over the on/off mechanism. Locks and tags inform other workers to leave the machine alone while repairs are being done.

Before you start working, double check equipment to make sure that machine isn't just turned off but completely disconnected from its source of power (pneumatics, electricity, etc.), and that there is no risk of the system releasing any stored energy.

Post Energized Electrical Work Permit

This work permit ensures that people in responsible positions (”managers, customers, building owners, etc.) are educated and involved in the decision whether to accept the increased risk associated with working on energized electrical conductors or circuit parts. Working around energized power is dangerous; it's important to make sure everyone is aware of the conditions and the potential hazards involved. Posting these energized electrical work permits can lead to a decision to complete work de-energized.

Recommended PPE

These standards recommend a vast array of PPE, all of which depends on the work you will be accomplishing. For a full list of PPE, consult the NFPA 70E Handbook. The following items are a good start to protecting workers around electrical energy.

- Arc-rated, non-melting or untreated natural-fiber clothing
- Rubber insulating gloves and leather protectors
- Class G or E hard hat (if necessary)
- Face shield
- Safety glasses
- Dielectric overshoes (if necessary)

The NFPA 70E is a vital tool for staying safe and protected from shock, arc-flash, and arc-blast accidents in energized environments.

Prof. Praful P Chudasama
Electrical Safety Auditor & Consultant
ECC, UPL University of Sustainable Technology

Blast hits Afghanistan's capital Kabul

An explosion in a Shi'ite residential area in Afghanistan's capital city Kabul on Friday killed at least two people and left three wounded, police said.

Massive building fire kills 5 persons in UP's Moradabad

Moradabad District Magistrate Shailendra Kumar Singh on August 25 informed that 5 persons were killed after a massive fire broke out at a multi-storey building in Moradabad on Aug 25.

Ammonium nitrate fertiliser explosion

Another significant section of the devastated Beirut Port silos collapsed on Tuesday. morning in a cloud of dust.

ELEMENTS OF PROCESS SAFETY

In the 1st Issue of SAFEXCELLENCE, SRICT CoE has selected 17 process safety elements and based on these elements and published literature, an attempt is made to analyze the disasters taken place during the month for the probable cause/s. SAFEXCELLENCE team points out the missing process safety element/s in the events that happened.

MISSING PSM ELEMENTS WHICH CAUSED

The Accidents, July-August 2022

Accidents	Missing PSM elements																
Pyrotech Industries Vizag	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
fire in chemical factory, Palghar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Fire in commercial complex at Chennai	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Fire at oil storage facility at Cuban city of Matanzas	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Massive explosion at a council depot in Sydney	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Explosion at firecracker Factory, Chhapra , Saran district, Bihar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gas explosion US state Missouri.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
transformers explosion Hoover Dam	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
fire at ChemMasters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Prepared by,
Dr. Ravindra Kanawade,
Asso. Professor, Chemical Engg. Dept.
UPL University of Sustainable Technology

UPL UNIVERSITY OF SUSTAINABLE TECHNOLOGY

Rotary Ankleshwar

One day International Symposium on

"Sustainability through Technology" (Environment & Energy)

Scope of the Symposium

The symposium is being organized to bring the various researchers working in the field of Environment and Renewable Energy on a common platform. They will be discussing the possibilities of managing the energy crisis and protecting the environment sustainably and for that initiating the collaboration among researchers, environmental scientists, architects, facility managers, policy makers and others.

The participants can interact with the various experts of field which will bring together the researchers from various fields. It will lead to exchange of ideas and help in developing new ones. This symposium provides a platform to exchange knowledge about the latest scientific trends and developments in the area of Environment & Energy.

Saturday - 17th September, 2022
10:00 AM to 05:00 PM

Dr. Aniruddha Pandit (Chief Guest)
(Plenary Lecture)

Dr. N.K. Verma
"Environmental concern and need for sustainable technology"

Dr. Vivek Dua
"Model-based and data-driven energy and environmental impact optimisation under uncertainty"

Mr. Deepak Ghadia
"Potential of Solar Concentrators for helping corporates and nations reach their sustainability goals by providing power and heating and cooling using solar thermal route"

Dr. Sanjay Vasantrao Patil
"Compressed Biogas (CBG) a Sustainable Biofuel-Emerging Opportunities and Production Technologies"

Mr. Prasad Gangavkar
"Solar Power - Redesigning Energy"

CHIEF PATRON

Mr. Ashok Panjwani (Executive Director)
Mr. B. D. Dalwadi (CEO)
BEIL Infrastructure Ltd, Ankleshwar

ORGANIZING COMMITTEE

Dr. Shrikant J. Wagh (Chairman)
Dr. Snehal Lokhandwala (Member)
Dr. Omprakash Mahadwad (Member)
Dr. Alok Gautam (Member)
Mr. Dharmesh Patel (Member)

Online Registration Link:
https://forms.gle/qCxEcUmQ4W2872FB8

Registration Fees: Rs. 3000 + GST (18%)

Name of Bank: HDFC, Ankleshwar
Name A/C: Ankleshwar Rotary Education Society
Account No: 50100223328950
IFSC Code: HDFC0000255

Dr. Omprakash Mahadwad
omprakash.mahadwad@srict.in
+91 8975033066

UPL University of Sustainable Technology
Block No: 402, Ankleshwar - Valia Rd, Vataria, Gujarat 393135

GEXCON UPL OpenAg SRICT

About University

UPL University of Sustainable Technology is the first private University of Sustainable Technology of Gujarat and India. University's vision is to be a world class university to impart knowledge, quality education and develop leaders required by allied industry.

Shroff S. R. Rotary Institute of Chemical Technology (SRICT) and SRICT Institute of Science & Research (SRICT-ISR) are constituent institutes of UPL University of Sustainable Technology and managed by the Ankleshwar Rotary Education Society. SRICT & SRICT-ISR are the leading Engineering and Science educational institutes of Gujarat.

WHO SHOULD ATTEND?

- ✓ Safety Professionals
- ✓ EHS & Sustainability Professionals
- ✓ Researchers, Academicians & Students
- ✓ Energy & Environmental Auditors
- ✓ Industrial Professionals Involved in Process, Energy Conservation & Sustainability
- ✓ Entrepreneurs involved in Renewable Energy & WTE Practices

GEXCON UPL SRICT

CHIEF GUEST

Dr. Aniruddha Pandit
Vice Chancellor-ICT
Mumbai, UGC Professor

Dr. Aniruddha B Pandit earned his BTech (1980) from Banaras Hindu University and PhD (Technology) (1984) from the University of Mumbai. He was Associate Lecturer while he was a Ph.D. student in the University Department of Chemical Technology (now Institute of Chemical Technology, ICT) under the guidance of Prof. J B Joshi. Between 1984-90, he was in the Department of Chemical Engineering, University of Cambridge with JF Davidson. After returning to India in 1990, he joined ICT as a UGC Research Scientist 'B' and was subsequently promoted as Scientist 'C' (Professor's Grade) in 1996. Presently working as a Vice Chancellor at ICT, Mumbai, UGC Professor.

ABOUT THE SPEAKERS

Prof Dua's research interests are in developing novel modeling, design, control and optimisation tools for solving process and biological systems engineering problems to address the changing energy and healthcare needs of the society. In particular, model reduction and parameter estimation techniques are being developed to tackle the computational complexity of these problems. These techniques are being applied to solve real life problems in collaboration with the chemical industry and researchers from the biological disciplines.

Dr. Vivek Dua
Professor of Chemical Engineering,
University College London

Dr. N.K. Verma
Member of Peer & Core committee
for development of standards

Post-graduation in Engineering (M.E. Civil with specialization in Public Health Engineering) from University of Roorkee (Now IIT, Roorkee) in 1974. Post-graduation in Environmental Science and Technology from Institute of Hydraulics and Environment (IHE), Delft, The Netherlands in 1981.

Worked in Central Building Research Institute Roorkee (1974 to 1977) as Research Fellow and Scientist. Worked in Central Pollution Control Board, Delhi (1977 to 2006) and retired as Additional Director.

Worked as CEO in UPL Environmental Engineering Ltd (2007 to 2011) & Consultant to German International Corporation (GIZ) for CETP. Member of Environmental Appraisal Committee of MoEF & CC (2013 to 2020) for Environmental Clearance. Involved by CPCB in expert committees (2020-2021)

UPL UNIVERSITY OF SUSTAINABLE TECHNOLOGY

GEXCON UPL SRICT

ABOUT THE SPEAKERS

Mr. Deepak Gadhia is a leading technocrat and a pioneer in the field of Solar and Renewable Energy as well as Bio Gasification, and has earned international recognition for his accomplishments over the last 40 years. He is a Director of MSA Renewtech Foundation, a social enterprise focused on renewable energy consultancy and whose Profits goes to Muni Seva Ashram a NGO in which he is a Trustee. He is promoter and Chairman of Sunrise CSP India Pvt. Ltd.

Mr. Deepak Gadhia holds a degree in "Process and Environmental Engineering" from TFH Berlin and has done Post Graduate Degree from TU Berlin, Germany & MIT of USA.

Mr. Deepak Ghadia
Chairman at Sunrise CSP India Pvt. Ltd., Vadodara

Dr. Sanjay Vasantrao Patil
Professor Emeritus (Honorary), Vasantdada Sugar Institute, Pune

Prof. (Dr.) Sanjay Vasantrao Patil has retired as Professor, Head & Technical Advisor from Department of Alcohol Technology and Biofuels, Vasant dada Sugar Institute (VSI) 38 years, Pune, India. Presently he is working as Professor Emeritus (Honorary) at VSI.

He holds M. Sc. (Bio-chem.) degree from Bombay University, M. Sc. (Engg.) degree from Indian Institute of Science, Bangalore, and Ph. D. (Biotechnology) from Pune University (National Chemical Laboratory), Pune. He was the Nodal Officer from VSI for Annual Inspection of Grossly Polluting Industries (GPI) awarded by CPCB and VSI was the Nodal institute for Sugar and Distillery sector.

Prasad Gangavkar is a Founder, MD & CEO of LUXSOLI Energy Pvt. Ltd. and ELCOM FutureTech Pvt. Ltd. An IIM, Ahmedabad alumnus specialized in SMEP, Small & Medium Enterprise Management. He carries a rich experience of cross cultural working with German and other European companies & people.

LUXSOLI specializes in Smart Solar Roof, Floating Solar and Solar Power Solutions for Home, Industries and Commercial Establishments. Their two of the innovating offerings are Smart Solar Roof (BIPV) and Floating Solar System.

Mr. Prasad Gangavkar
Founder, MD & CEO of LUXSOLI Energy Pvt. Ltd. and ELCOM FutureTech Pvt. Ltd.

Reach Us

UPL UNIVERSITY OF SUSTAINABLE TECHNOLOGY

For More Info

GEXCON

UPL OpenAg

SRICT

CERTIFICATION COURSES AND CONSULTING SERVICES OFFERED BY SRICT - CoE

For More information About Total Safety Solution Model, Contact Us

(Scan QR Code)

Or

Dr.Omprakash Mahadwad
(CoE-Coordinator)
+918975033066
Omprakash.mahadwad@srict.in

Training programme on Process Safety Management

Assisting Industries In Implementation Of Process Safety Management

PSM Consulting Assignments To Medium/Large Chemical Companies

Assisting Industries TO CONDUCT Hazard and Operability study (HAZOP)

Assisting industry sponsored research projects in Process Safety

CoE Newsletter Editorial Board