

SERIOUS ACCIDENTS IN SEPT-OCT 2022

4 workers killed, 20
injured in Surat
chemical factory fire



Four workers were killed and 20 others injured after a fire broke out in a chemical factory in Gujarat's Surat city.

Cannock fire:
Massive explosion
rocks chemical
factory



This morning, reports of explosions were heard above Cannock, and pictures of a fire nearby the M6 tollway surfaced.



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EDITORIAL

Need of the hour is sustainability of the business and the organisation through safety consciousness amidst a plethora of hurdles the world is confronting nowadays like war-mongering between powerful nations, summoning of recession, economic collapse, unforeseen climate change, enormity of flood, crops damage, food crisis, insurrection and sedition of rebellion groups across many nations

First and the foremost, the Safexcellence team sincerely wishes you and your family a very prosperous and auspicious Diwali and New Year with a view to let you staying healthy and sustaining the immunity against flurry of atrocities looming large and engulfing the world gradually. The earlier SARS-CoV covid -19 virus has presently gained the potential to evade immunity of human physiology by virtue of several mutations resulting into a soup of its sub-variants like XBB, B.Q. 1, delta and omicron etc. Global geopolitical crisis may end up with the disruption of European Union and USA. The war is gradually going to intensify further with the involvement of other powerful nations taking part into it and causing a Serious Energy crisis across the globe. 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 September and

October 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 special articles on pre-startup safety review (PSSR) along with the regular features. PSSR is important element of any process safety management program (PSM), and it is the final step to check and ensure safety before start the facility.

Trust me that this issue is going to fetch you a taste of varieties in articles. Safexcellence will feel better while it receives your invaluable comments and pertinent advice with a view to continuously feeding you thoughtful information of your preference.

Dr. Omprakash Mahadwad
Coordinator, CoE, SRIC.

CoE ACTIVITIES

Workshop on Process Safety and Hazard Analysis

One-day workshop on "Process Safety and Hazard Analysis" was organized on 8th October 2022 at UPL University of Sustainable Technology.

The workshop was graced by Mr. Anil Mundada Unit head of UPL 5 Jhagadia as chief guest. The workshop was attended by 90 participants from various chemical industries and was very much appreciated.

There were four sessions namely on Process hazard analysis, 3D modelling for consequence analysis, Quantitative risk assessment and HAZOP study which were delivered by Mr. Alok Kumar (Consultant), Dr. Alok Gautam (Professor and Head of Chemical Engineering), Mr. G. Vishwanathan (Consultant), And Mr. Dinesh M Butala (Consultant). respectively.



युपीएल युनिवर्सिटी द्वारा प्रोसेस सेफ्टी, हार्ड अनालिसिस वर्कशॉप योजन्या



अंकलेश्वर | युपीएल युनिवर्सिटी जाते राष्ट्रीय कक्षाणा प्रोसेस सेफ्टीना वर्कशॉपनु आयोजन करवामां आयुं UPL सेन्टर ओफ अेक्सेलन्स (प्रोसेस सेफ्टी) अने डिपार्टमेंट ओफ केमिकल अेन्जिनियरिंग द्वारा संयुक्त रीते 8मी ओक्टोबर 2022ना रोज UPL युनिवर्सिटी ओफ सस्टेनेबल टेक्नोलॉजी 'प्रोसेस सेफ्टी अेन्ड हार्ड अेनालिसिस' पर अेक द्विवर्सीय वर्कशॉपनु आयोजन करवामां आयुं હતું. वर्कशॉपમાં મુખ્ય અતિથિ તરીકે અનિલ મુંદડા યુનિટ હેડ યુપીએલ 5, (ઝગડિયા) એ હાજરી આપી હતી. વર્કશોપમાં વિવિધ ઉદ્યોગોના 90 સહભાગીઓએ ભાગ લીધો હતો અને તેની ખૂબ પ્રશંસા કરવામાં આવી હતી.



Safety Training for School Students

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 Sewa Rural studetns. In all total 180 students had actively participated in this awareness



Bomb explodes on roof of a school in Titagarh



An explosion took place on the roof of a school in West Bengal's Titagarh on Saturday during school hours, however, there were no injuries reported.

Massive fire breaks out at coal-tar factory



A massive fire broke out at a coal-tar factory in Bhilai on October 03 mid-night. Reason behind the source of fire is yet to be ascertained.

Major fire at auto parts factory in Gurugram



A major fire broke out in an auto parts manufacturing unit in Gurugram's Binola village on Saturday morning.

Turkey coal mine explosion



At least 40 workers are dead in a coal mine explosion in Turkey.

LPG cylinder explosion in Rohtak



Seven family members were seriously injured when an LPG cylinder exploded in Haryana's Rohtak on Wednesday.

Kerch Bridge explosion

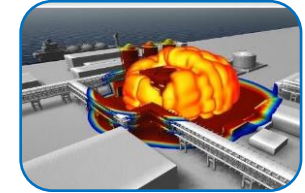
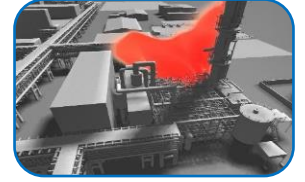


A massive blast shook the Kerch Bridge, Crimea, early Saturday, local time. Shocking images of burnt rails and collapsed roads have been circulating everywhere.

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



Mr. Sanjog Deore, Student of SRICT, Masters of Chemical Engineering, selected in GEXCON (India) as a Trainee Engineer. He worked on Consequence analysis and CFD modeling of an accidental release of Chlorine and Hydrogen for his dissertation work.



Sanjog Deore
Trainee Engineer at GEXCON



Pushpak Patil
Trainee Engineer at GEXCON

Mr. Puhpak Patil, Student of SRICT, Masters of Chemical Engineering, selected in GEXCON (India) as a Trainee Engineer. He worked on FLACS software for his project work.



Explosion at Maha power company plant



One person was killed and two others injured in an explosion on Sunday at the power station of the Maharashtra Power Generation Company at Uran in Navi Mumbai.

Crimea bridge explosion



Russian President Vladimir Putin signed a decree to strengthen measures for protecting transport crossing through the Kerch Strait.

Donegal petrol station explosion



On Friday, at an Applegreen petrol station in the village of Creeslough in Co Donegal, a severe explosion took place that killed seven people.

A Pre-Startup Safety Review

A pre-startup safety review (PSSR) is an important element of any process safety management program (PSM), and it is the final step to check and ensure safety before start the facility.

PSSR will be required for

- Start-up after long/ routine shut-down
- New Process Start-up
- Start-up after Process Safety incident/ Emergency Shut-down

The Methodology for the Pre-Start up Safety Review (PSSR) is as below:

➤ PSSR Team formation:

- ❖ Managers of process safety management and PSM coordinators at a manufacturing facility.
- ❖ Project managers and project team members.
- ❖ Operations, maintenance, Instrumentation, Electrical and other manufacturing personnel.

➤ Regulatory Issues

- ❖ Overview of the regulatory aspects of project
- ❖ Describes the specific U.S. OSHA and EPA regulations regarding PSSR

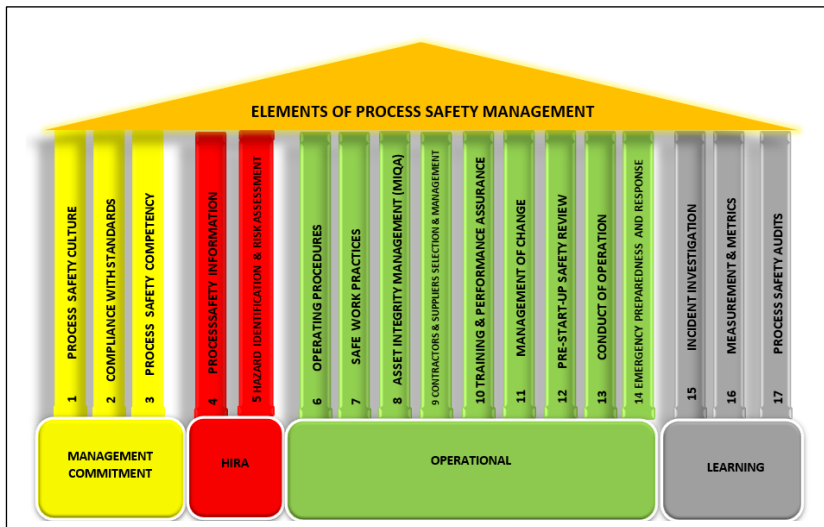
➤ Risk-based Approach

- ❖ Effective pre-startup safety reviews - using risk to determine the type or complexity level of PSSR
- Discussion with plant personnel on process, operation to get information about personnel process knowledge and process related training.
- Review of the documents such as all HSE Reports, procedures, awareness levels of employees and implementation.
- Site visit to be conducted to identified gaps with respect to design (P&IDs) and punch point to be listed.
- Site visit to be conducted to identification of gaps and recommendations to bridge the identified gaps.
- Categorisation of points based on operation/ criticality level.
- PSSR signoff by Authorised person.

References – CCPS guidelines of PSSR

Dr. Ravindra Kanawade
Asso. Professor, SRICT

ELEMENTS OF PROCESS SAFETY MANAGEMENT



In the 1st Issue of SAFEXCELLENCE, SRICT CoE has selected above mentioned 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, Sept-Oct 2022**

Accidents	Missing PSM elements																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Anupam Rasayan India Limited, Sachin, Gujarat	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Cannock fire: Massive explosion rocks chemical factory, Walkmill Ln, UK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Fire at a coal-tar factory in Bhilai	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Fire in an auto parts manufacturing unit in Gurugram's Binola	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Coal mine explosion in Turkey	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
A massive blast shook the Kerch Bridge, Crimea	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Maharashtra Power Generation Company at Uran in Navi Mumbai	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Tesla Gigafactory Berlin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Applegreen petrol station, Creeslough, Co Donegal, Ireland	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

*Prepared by,
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Massive blaze at multi-storey



The firefighters of Leeds city in England, have managed to put out a huge fire that broke out at a multi-storey building in the city centre.

Major blaze in east Delhi market



A major fire broke out at Gandhi Nagar Market in east delhi here on Wednesday evening, officials said.

Fire breaks out at Tesla Gigafactory Berlin



A major fire broke out at the Tesla Gigafactory Berlin after a significant pile of cardboard and wood caught fire in the factory's recycling



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(SCAN QR CODE)

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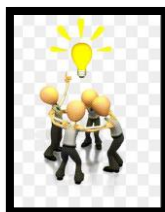
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