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Indian Institute of Petroleum develop technology to reduce benzene levels

CSIR-IIP

Reliance Industries in a collaboration with Indian Institute of Petroleum (IIP) Dehradun has developed an indigenous technology to restrict benzene, a carcinogenic element in gasoline and naphtha.

"…in a major technological and scientific breakthrough, RIL and IIP have come up with an indigenous Benzene Recovery Unit (BRU) which restricts benzene content to 0.2 volume per cent in raffinate (return stream to gasoline)," the company said in a press release today.

According to the statement, RIL carried out the construction and the 'flawless' commissioning of the BRU. On May 23 this year, the on-specification raffinate product (less than 0.2 volume per cent Benzene) was sent to storage for blending and sales.

With the successful culmination of the private-public venture, RIL and IIP have joined the league of elite technology developers, the company said.

The company claimed that enquiries are pouring in from across the globe, seeking to license the cost-effective, indigenous technology.

The technology will help to curb the menace posed by benzene, a known 'carcinogenic'.
RIL had entered an agreement with Indian Institute of Petroleum (IIP), Dehradun to co-develop an extractive distillation process.

The company said that there has been an increasing pressure on refiners around the world to reduce the amount of benzene and other hazardous air pollutants in the gasoline pool because of health and environmental concerns.
In 2011, Environmental Protection Agency (EPA) in the US made it mandatory for refiners to meet an annual average gasoline benzene content standard of 0.62 volume per cent for all of their gasoline, both reformulated and conventional.
Realising that the rest of the world too would follow suit, RIL had since been evaluating available technologies to remove benzene from Fluid Catalytic Cracker (FCC) light naphtha.

However, it could not implement it because of higher capital and operating expenditures and loss of value due to significantly lower benzene recovery.
The other issue with available technology was loss of octane barrel due to loss of high-octane olefinic compounds.

http://www.financialexpress.com/article/industry/tech/indian-institute-of-petroleum-develop-technology-to-reduce-benzene-levels/291327/

PTI | New Delhi | Jun 21, 2016

RIL, Indian Institute of Petroleum develop benzene curbing technology

CSIR-IIP

RIL, along with Indian Institute of Petroleum (IIP) at Dehradun, has developed a technology which restricts benzene content in the gasoline pool to address the health and environmental concerns.

Reliance IndustriesBSE -0.68 %, along with Indian Institute of Petroleum (IIP) at Dehradun, has developed a technology which restricts benzene content in the gasoline pool to address the health and environmental concerns, the Mukesh Ambani-led company said on Monday.

Refiners across the world are under pressure to reduce the amount of benzene and other hazardous air pollutants. The indigenous Benzene Recovery Unit developed by RILBSE -0.68 % and IIP will restrict benzene content to 0.2 volume per cent (vol.-%) in raffinate (return stream to gasoline), the statement said.

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RIL's Jamnagar Refinery has two of the world's largest Fluid Catalytic Cracker (FCC) units. The light naphtha produced from these units is the major contributor of Benzene in the gasoline pool.

The release stated that RIL and IIP have received several enquires seeking licensing the technology.

http://www.thehindu.com/todays-paper/tp-features/tp-educationplus/one-more-reason-to-avoid-consanguineous-marriages/article8749273.ece

Rachita Prasad | ET Bureau | 20 June, 2016

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CSIR-IIP

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http://timesofindia.indiatimes.com/city/delhi/RIL-IIP-develop-technology-to-reduce-benzene-levels/articleshow/52839634.cms

PTI | Jun 20, 2016| New Delhi

Equipping farmers with machines

CSIR-CFTRI

Of late, we see a number of efforts to ease farmers from the many challenges they encounter everyday, specifically the unavailability of farmhands. One such effort is made by T Manohar, who has designed many agricultural implements and grain-processing machines.

Manohar is a zealous farmer based in Ganjam village of Mandya district. He has been involved in manufacturing farm-related equipments for the past 25 years. After getting trained in the Central Food Technological Research Institute (CFTRI) in Mysuru in 1980, Manohar started making modern farming gadgets.

His father, T Sukhojirao, had set up a small unit to manufacture bullock carts and other farm implements in 1946. Now Manohar has taken forward his legacy. What started as a journey to create traditional farming implements, it has now taken into its fold modern gadgets and millet-processing machines too.

Manohar is a regular visitor at most of the farm exhibitions in the State in tow with all his creations. In fact, he is so popular that agricultural universities recommend his machines to the farmers. He has designed 3 types of millet-processing machines, which are quite popular among growers. For those who wish to buy machines for commercial purposes, Manohar's brother has set up a shop in Ganjam. "Farmers have found these machines useful. I sell around 350 farm equipment units and 120 processing units every year," states Manohar.

In 1980, he started designing grain-processing machines and later realised that there is an acute shortage of millet-processing machines in the State and started working on it.

After putting in years of dedicated effort, he tasted success in 2011. Since the shape and size of each millet variety is different, he had to design 3 types of machines to ensure proper processing of different types of millets. Every machine costs around Rs 90,000. About 150 kg of millet can be processed at a time in these machines. When 100 kg of millet is processed in this machine, a farmer incurs a cost of Rs 30-40. But when the same quantity of millet is processed and cleaned by hand, it takes a lot of time and effort, and costs way more.

"The government provides subsidy for big processing units and not the smaller ones. Providing subsidies for smaller machines will greatly help medium and small farmers in the State," explains Manohar.

"The government is encouraging cultivation of millets as alternative crops. But processing continues to be a challenge. Hence, suitable machines will be of great help. The government should also provide subsidies to purchase these machines," rues Nanjunda Gowda, a farmer.

"I have supplied my machines to agricultural universities of Salem and Coimbatore in Tamil Nadu. They have distributed the machines at a subsidised rate to the local farmers," says a proud Manohar. Agricultural universities in the State have also placed in their orders. Infosys Foundation has decided to supply these machines to women's self-help groups in Dharwad.

http://www.deccanherald.com/content/553425/equipping-farmers-machines.html

Siddaraju M | DHNS | 21 June 2016

Workshop on Biological Diversity Act

CSIR-CFTRI

The Central Food Technological Research Institute (CFTRI) will hold a workshop on the Biological Diversity Act, 2002 on its premises in the city on Friday.

The Biological Diversity Act, 2002 was enacted by Parliament for the conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the use of biological resources and knowledge. The workshop is being organised with sponsorship from the Karnataka Biodiversity Board.

CFTRI has invited eligible researchers/research scholars/faculty members working with biological materials for the workshop. Those interested may contact computercentre@cftri.res.in or call 0821-2514360.

http://www.thehindu.com/news/national/karnataka/workshop-on-biological-diversity-act/article8754474.ece

SPECIAL CORRESPONDENT| Jun 21, 2016

CSIR-CFTRI to organise workshop on Biological Diversity Act, 2002' on June 24 at its campus

CSIR-CFTRI

CSIR-CFTRI is organising a workshop on 'Biological Diversity Act, 2002' on June 24, 2016 at its campus in Mysuru. The event is sponsored by the the Karnataka Biodiversity Board in order to create awareness and sensitize the individuals about rich biological diversity in India.

Biological Diversity Act, 2002 was enacted for the conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of use of biological resources and knowledge.

Participation from eligible researchers/research scholars/faculty members working with biological materials are invited for the workshop. Participants could contact computercentre@cftri.res.in

http://www.pharmabiz.com/NewsDetails.aspx?aid=95817&sid=2

Our Bureau | Bengaluru | Jun 20, 2016

Move Over fish, healthy seaweed latest culinary delight

CSIR

Move over fish, healthy seaweed latest culinary delight

MOUSHUMI BASU ■ NEW DELHI

Sea fish have been a part of our mouth-watering cuisine for long. But soon seaweeds may also become our culinary delights due to their high nutritional value and easy processing. In the first-ever pilot project in the country, a seaweed, commonly called thread algae, found in abundance in Sunderban delta region, is being used to make bread, cookies and ice cream.

This is part of a climate change project undertaken by the Council of Scientific Industrial Research (CSIR) aimed at generation of alternative livelihood for the coastal dwellers.

"Sunderban is a red alert zone of climate change. Its impacts are manifested by sudden bursts of cyclones or tidal surge, erosion of land surface, erratic rainfall among others, whose intensity as well as frequency are on the rise," says Dr J Sundaresan, lead scientist and coordinator of the CSIR Project called Vulnerability Assessment and development of Adaptation strategies for Climate Change impact with special reference to coasts and Island ecosystems of India (VACCIN).

The purpose of the project is to help the coastal dwelling communities come up with measures of mitigation and adaptation to climate change with stress on improving/ generating sustainable solutions for livelihood, he adds.

In Sunderban, thread algae (*Enteromorpha intestinalis*) is being used as a step in this direction, says Dr Abhijit Mitra, who is heading the project here. Rich in anti-oxidants, minerals and proteins, these seaweeds mixed with the most widely consumed bakery products such as bread and biscuits/cookies or ice cream, can help common man overcome his nutritional deficiencies, he says.

Dr Mitra is an expert on oceanography from the Department of Marine Science, University of Calcutta, Kolkata. He is being assisted by researchers, Dr Debabrata Bera, Dr Sufia Zaman and Prosenjit Pramanick. The team diligently collects samples of the seaweed from the remote islands, while sensitising local communities on their importance and means of extraction. Awareness campaigns have been conducted in at least six villages in this regard.

The seaweed mass is extracted in steam. It is enough for the extract to drip out of the seaweed, when it is bundled and tied up to a cloth suspended over steam. The green extract that starts pouring out, is then collected, says Pramanick. "We could not opt for expensive, hi-tech means, keeping in mind the condition and requirement of our target communities," he adds.

In the first-ever pilot project in India, a seaweed found in abundance in Sunderban delta region, is being used to make bread, cookies and ice cream. This is a part of a climate change project undertaken by the Council of Scientific Industrial Research aimed at generation of alternative livelihood for coastal dwellers

This seaweed extract in its powder form is henceforth mixed with the dough of cookies/ biscuits/ bread, to get the nutrient enriched product. Similarly for ice creams too, seaweeds can be an excellent value addition, to reduce nutritional deficiencies caused by sugar, artificial flavours and make it rich in wide range of constituents as minerals (iron and calcium), protein (with all essential amino acids), vitamins and fiber. Efforts are on to link the villages to the bakery and ice cream companies, for sustainable income generation for the beneficiaries.

The Pioneer| New Delhi | Jun 21, 2016

CSIR-CIMFR

इन धमाकों से न हिलेगी जमीन, न उड़ेंगे पत्थर

डेढ़ सौ साल पुराने ओवरब्रिज को नियंत्रित विस्फोटन तकनीक से हटाएंगे सिंफर के वैज्ञानिक

- भागलपुर-पीरपैंती के बीच होंगे चार और धमाके
- रेलवे के आधुनिकीकरण को गति देंगे धनबाद के वैज्ञानिक
- 50 किमी लंबे रेलखंड के दोहरीकरण का प्रशस्त होगा मार्ग

तापस बनर्जी, धनबाद

सिल्क नगरी भागलपुर और पीरपैंती के बीच तीन धमाके हो चुके हैं और जल्द ही चार और धमाके होंगे। ये धमाके किसी को नुकसान पहुंचाने के लिए नहीं बल्कि रेलवे लाइन के विस्तार के लिए होंगे। इन धमाकों से 50 किमी लंबे इस रेलखंड के सौ डेढ़ सौ साल पुराने कई ओवरब्रिज को गिराया जाएगा। धमाकों से न तो जमीन हिलेगी और न पत्थर उड़ेंगे। रेलवे ने इसकी जिम्मेदारी केंद्रीय खनन व ईंधन अनुसंधान संस्थान सिंफर के वैज्ञानिकों को सौंपी है। सिंफर वैज्ञानिकों ने तीन चरणों की परियोजना पूरी कर ली है। शेष चार के लिए रेलवे बोर्ड की अनुमति की प्रतीक्षा की जा रही है। भागलपुर-पीरपैंती के बीच ब्रिटिश जमाने में निर्मित रेलवे ओवरब्रिज उस वक्त की जरूरत के अनुसार बने थे। उनके नीचे एकल रेलवे लाइन का निर्माण किया गया था। अब आवश्यकता के अनुसार इस रेलखंड पर दोहरीकरण होगा जिसकी मंजूरी रेल मंत्रालय ने दे दी है। दोहरीकरण के लिए पुराने रेल पुलों को नेस्तनाबूत करने की आवश्यकता थी। रेलवे ने इसके लिए सिंफर को परियोजना सौंपी। सिंफर वैज्ञानिक नियंत्रित विस्फोटन तकनीक का इस्तेमाल कर चंद घंटों में पुल गिरा रहे हैं।

क्या है नियंत्रित विस्फोटन तकनीक : परियोजना की मॉनिटरिंग सिंफर के वरिष्ठ वैज्ञानिक सह प्रोजेक्ट लीडर डॉ. पी पॉल राय कर रहे हैं। डॉ. राय के अनुसार भागलपुर-पीरपैंती रेलखंड पर रेलवे पांच से छह घंटे का ट्रैफिक ब्लॉक देती है। इस अवधि में भी रेलवे पुल गिराने की चुनौती है। इसके लिए वैज्ञानिकों की टीम रात में ही अपने काम में लग जारी है। पुल की दीवार पर 200 से 300 छेद बनाया जाता है। उन छेदों में बारूद भरे जाते हैं फिर उन्हें एक-दूसरे से जोड़ा जाता है। नियंत्रित विस्फोटन तकनीक से विस्फोट के दौरान पत्थर नहीं उड़ते और आम विस्फोट की तुलना में कंपन्न भी नहीं होती है। इसके लिए सिंगल शॉट ब्लास्टिंग कराया जाता है जिसमें माइक्रो सेकेंड के बाद एक पर एक विस्फोट होते हैं। यही वजह है विस्फोट की तीव्रता कम रहती है और कंपन्न नहीं होता है। वैज्ञानिकों की यह तकनीक इतनी कारगर है कि छह घंटे के ट्रैफिक ब्लॉक में पांच घंटे में ही काम पूरा कर लिया जाता है।

भागलपुर-पीरपैंती रेलखंड पर विस्फ्रेट कर गिराया गया पुल।

विस्फ्रेट कर गिराने वाली टीम। जागरण

चार नये पुलों को गिराना बड़ी चुनौती

इस रेलखंड पर चार और रेलवे पुलों को गिराया जाएगा। इनमें चार में से एक कहलगांव शहर में और दूसरा पीरपैंती में है। दोनों पुल घनी आबादी के बीच है। आबादी वाले क्षेत्र में धमाके से पुल गिराना वैज्ञानिकों के लिए बड़ी चुनौती होगी। हालांकि विस्फ्रेटन तकनीक से खतरे की संभावना कम है। बावजूद एहतियात बरतना होगा। रेलवे बोर्ड स्तर पर ट्रैफिक ब्लॉक की अनुमति मिलने पर अगले चरण की कार्रवाई शुरू होगी।

इन पुलों को गिराया गया

- विक्रमशीला स्टेशन के निकट ओरओबी संख्या 111 को 16 अगस्त को गिराया गया
- कहलगांव के निकट आरओबी संख्या 123 को 15 नवंबर को गिराया गया
- भागलपुर हवाईअड्डा के पीछे आरओबी संख्या 149 को 8 मई 2016 को गिराया गया

आधुनिकीकरण को ध्वस्त होंगे देशभर के 850 पुल

शहरी क्षेत्रों में आधारभूत संरचना विस्तार और रेलवे का आधुनिकीकरण होगा। इसके लिए मेक इन इंडिया के तहत एकल लाइन के दोहरीकरण के लिए देशभर के 850 रेलवे ओवरब्रिज का अस्तित्व समाप्त होगा। भागलपुर-पीरपैंती रेलखंड केंद्र सरकार की विकास उन्मुखी योजना का एक हिस्सा है जिसमें धनबाद के सिंफर वैज्ञानिकों को अहम जिम्मेदारी सौंपी गई है।

> सिंफर निदेशक डॉ. पीके सिंह के कुशल नेतृत्व में विस्फोटन विभाग की टीम रेलवे के इस प्रोजेक्ट में काम कर रही है। रेल मंत्रालय से अनुमति के अनुसार प्रोजेक्ट को पूरा किया जाएगा जिससे दोहरी रेलवे लाइन पर ट्रेनों का परिचालन सुगम होगा।
>
> डॉ. पिजुश पाल राय
> हेड ऑफ रिसर्च ग्रुप, सिंफर

Dainik Jagran| Dhanbad | Page No: 6 |20 June 2016