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- Inconel
- Monel
- Hastelloy
- Titanium
- Stainless Steel
- Duplex Steel
- Carbon Steel

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MATERIALS.SANDVIK
Dear Reader,

The year 2020 will long be remembered as the year of the Covid-19 pandemic. A novel strain of coronavirus originated in Wuhan province of China a year back, in December 2019. The pandemic caused widespread disruption in society and business, perhaps permanently changing the way we lead life, interact with others and conduct business. The greatest impact was caused by the disruption in business and industrial activities worldwide, triggering job losses and throwing up, possibly an unmanageable health crisis. The government announced a nation-wide lockdown end-March to contain the spread of infection.

The Alkali and PVC industry supported the government’s efforts in combating the crisis by ensuring consistent supplies of disinfectants. AMAI was also interfacing with the government and various bodies to propagate the safe use of disinfection chemicals. The PVC industry gained importance with plastics gaining popularity as the preferred material to offer good protection against the spread of infection.

As industrial and business activities were allowed to resume by the government in a phased manner, there was a commensurate resumption in demand for alkalies though the first quarter of FY 2020-21 business was severely affected due to the lockdown.

The government announced financial packages to support recovery of the economy with a thrust on self-sufficiency through the Prime Minister’s call for AatmaNirbhar Bharat. AMAI represented to the government at various levels for intervention to curtail imports given that the steep drop in demand had further affected the capacity utilization.

A worrying trend for the industry was the non-acceptance by Finance Ministry of the findings of anti-dumping investigations by DGTR recommending imposition of duties on imports. The sunset review petition filed by the industry seeking continuation of ADD on caustic soda imports and another petition seeking imposition of ADD on soda ash imports were investigated by DGTR and recommendations for duties were notified. The Finance Ministry decided not to accept recommendations in these cases also. The industry was hoping for relief in the form of anti-dumping duties on imports to help tide over the crisis and an early return to normal business.

The unprecedented disruption and the absence of ADD relief were a double whammy. However, with the resumption of business and industrial activities, the alkali industry was able to gradually register recovery as the year ended. A complete recovery to pre-covid levels would still be months away.

K. Srinivasan
Secretary General
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Meghani Finechem Limited, a flagship company of Meghani Group, commissioned its Phase-II Caustic Soda Plant (300 TPD) in 2020 and reached total caustic soda capacity to 2,94,000 TPA. The company has further plans of increasing its caustic soda capacity to 4,00,000 TPA, to be operational by March 2022 at its Dahej Unit. MFL is parallelly also executing enhancement of its captive power plant capacity from 96 MW to 132 MW.

During this journey of capacity increase and commissioning, MFL operational team have experienced different situations leading to learning lessons. The learnings and successful operational phase of CA-I led to wise decision making for CA-II.

Inspite of health pandemic Covid 19 impact, MFL commissioned its Phase II CS plant in this crucial time. The operational team faced many challenges, had discussion rounds, new ideas emerged and commissioning done successfully. We would like to share below some of the major challenges faced by MFL team:

- Rectifier commissioning
- Electrolyzer commissioning
- Commissioning of other units
- Vendors limitations
- Manpower management

Challenges faced are being discussed below one by one.

**Rectifier Commissioning**

Rectifier was purchased from KORI, China. It was not possible to have Vendor here for commissioning due to lockdown and Visa restrictions. All members of operational team put in excellent efforts and activities like Pre-commissioning, Testing and Commissioning done online with Kori. System software uploading, trials, etc., were very tedious but finally got success.

**Electrolyzer Commissioning**

AKC, Japan expert was not in position to attend commissioning. With help of local AKC representatives, MFL team was able to successfully commission.

**Commissioning of other units**

Sulphate removal system and ion exchanger brine secondary treatment plants were also commissioned without direct support from respective vendors.

MSRU commissioned with online help from external vendor, similar case as was for rectifier commissioning.

**Vendor limitations**

As NO Vendor was present physically to observe commissioning activity, all done through online support. Faced teething problems but were successful. It was a new experience altogether.

**Manpower Management**

Due to Covid-19 Pandemic, it was much more difficult to engage manpower and then manage them on long term within the plant premises keeping in view all precautions to be taken. This was a major challenge. There were Government restrictions. MFL managed this aspect successfully, following all rules and regulations like maintaining social distance, use of sanitizer, mask, and disinfection facility.

To summarize, it has been a great experience of challenges and learning. Caustic Soda Phase-II commissioning was joint effort from all the team members of Meghani Finechem limited which made a historic success.
The Contagion has created shockwaves across the world and has halted the financial movement. In this current scenario all the major industries are keeping themselves standing high to overcome many challenges occurred due the pandemic. Market dynamics, technical complexity and the unyielding pressure to do more with less, are challenges faced by all industries. Yet each industry is unique, and there are no simple answers. In the context of the growing economy, sustainable development is a prerequisite. Chemicals being indispensable, India needs to take big leaps forward, from the current 3% to at least 5-6 % global industry share. Amongst Chemical industries which comprises of majority in industry domain and forms base for every product we use in our daily routine. The chemical industries are struggling to keep the standard practices and traditional approaches. Working with newer techniques and technology plays a vital role in enhancing the overall performance and business goals.

To achieve this, the zero defect zero effect model signifying products with no defect and production process with no adverse effect is the future of chemistry, said Shri D V Sadananda Gowda, Minister of Chemicals & Fertilizers, Government of India. The chemical manufactures can achieve the top quartile business performance through industries broadest portfolio of technologies to measure, control, analyze and optimize. Right from shop floor to top floor covering all the layers of Digital Transformation. As we discuss that none of the industry in the globe has similar solutions to cater business needs to take big leaps forward, from the current 3% to at least 5-6 % global industry share. Amongst Chemical industries which comprises of majority in industry domain and forms base for every product we use in our daily routine. The chemical industries are struggling to keep the standard practices and traditional approaches. Working with newer techniques and technology plays a vital role in enhancing the overall performance and business goals. Digital Transformation brings together critical resources to help manufacturers develop and implement pragmatic digital transformation strategies that deliver industry-leading performance. It brings values in space of consulting, project execution, smart sensor technologies, data management and advanced data analytics. Also, its important that whichever digital tools Chemical Industrialists try must be in area of workforce upskilling which comes with quantified business outcomes and a shorter payback period. Certainly, Digital transformation is one of the game changers and when planned systematically can yield better results.
needs but the impact on making them closer to top quartile performance is our zeal.

In a chemical industry, when we see traditional approach to maintain a plant, is to have mundane operator rounds for reliability checks of rotating machines and functional checks for all the critical assets. This brick and motor way of periodical check of vibration weekly, monthly, quarterly for the preventive maintenance is not the smart way to work with limited resources instead we try to do things in a different way. We use the modern innovative sensors which helps you provide the action vibration parameters. You can also share the information between maintenance and operations so that repairs are anticipated, and production schedules are adjusted accordingly. The modular technology applications incorporate diagnostic and reporting sources into a common database for analysis of machine health across the entire plant. Through this integration, you gain a comprehensive view of each monitored machine and more accurate diagnosis of developing problems. Correlation from multiple technologies allows you to identify and fix the root cause of issues once, instead of fixing the symptoms repeatedly. The software is also capable to do pattern recognition, sensor validation, process validation, Dynamic targeting, process modelling, batch analysis etc. Your facility can achieve increased availability and performance from production assets, rather than experience expensive downtime and costly repairs.

This kind of sensors and data analytics is required in this challenge period which can reduce the efforts of an individual in collecting the data, analyzing the data and reactive repairing activity instead the same amount of time can be allotted to other very important tasks.

When we talk of other non-rotating critical assets like heat exchanger, chillers, boilers, condenser, etc. monitoring of these assets becomes vital when we lack data from this assets and analysis of those data. Due to the current pandemic our most experienced people in plant are either working on important tasks or they need time to make the plant running with optimum resources. Sensors along with the software tools which measures the health and performance of these assets are of great help in early diagnosis of the issues preventing sudden downtime. Our customized software calculates thermodynamic-based equipment performance using industry-standard ASME PTC performance calculation techniques to facilitate KPIs and metrics that can be compared to design/baseline to determine “deviation from design” diagnostics for your critical machinery, including turbines, compressors, boilers and other production assets. The Software also has inbuilt numerous FMEA templates for equipment’s which can be used to diagnose the fault at the earliest and without analyzing much of the already analyzed data. Refer to Fig-1 for illustration.

Specific key performance indicators combined with clear graphical operating plots show exactly where the equipment is currently operating versus expected or design condition. Combining performance data with machinery condition, protection and prediction diagnostics helps your reliability program shift from reactive to proactive operation.

With more than thousands of equipment’s running in the chemical plant which consumes ample amount of water, steam, air, gas or electricity as Energy, monitoring and checking the over-consumption of these essential energy supply is also an important aspect. When we talk about steam as an Energy, irregular manual surveys and limited effective maintenance can lead to costly steam trap failures. In fact, steam
trap leaks can account for a 5-10% loss of steam production energy costs because of the time delay between trap failure and proper diagnosis and maintenance. Easy-to-install Wireless Acoustic Transmitters can help monitor steam trap performance in real time, eliminating the need for manual rounds and dramatically reducing energy waste. All the high-pressure traps are advised to have this monitoring enabled. This monitoring also results in reducing subsequent energy emissions for environmental hazard. The benefits are truly unmatched when compared to third party audits and third-party service providers.

Another solution in optimizing and monitoring the over consumption of Energy is with artificial intelligence and machine learning. Our Energy suite automates the process of mapping and managing energy consumption across a site as it is being consumed. Real-time alerts, dashboards, and emails notify decision-makers when energy consumption is above the expected amounts so that actions may be taken to drive down energy costs. Energy suite empowers key stakeholders in an organization to:

1. Reduce total energy costs
2. Establish, track and maintain real and achievable targets for energy reduction.
3. Implement a positive corporate social responsibility program towards energy and emissions reduction.

Energy software integrates seamlessly with current site control, SCADA and/or enterprise systems, allowing implementation of the solution in a straightforward. The solution can also provide the means to obtain needed energy measurements by specifying and delivering best-in-class wired or wireless devices. With wireless technology, the cost of measurement implementation can be reduced by two thirds, allowing any missing flow, pressure, and/or temperature instruments to be brought back to the monitoring system cost-effectively. This leads to complete autonomous modus operandi for Energy solutions in a chemical plant. The organization can leverage the use of this analytics and root cause analysis for overall energy optimization and monitoring of assets. Refer to Fig-2 for illustration.

Also, the foremost and important category for Chemical plant is Environmental hazard and emissions. CO2 emissions and other hazardous gases which are released from the process units needs an effective monitoring to avoid process loss and hefty environmental fines. With smart sensors for these gases we can try to control the emissions. Many issues related to emissions are Mass and Energy Balance, Flare regulatory compliances, Fugitive emissions prevention and detection, Improved Steam measurement, Hydrocarbon Leak detection, Combustion management system etc. Toxic gases such as H2S, CO and depletion in O2 level can easily be monitored with innovative smart sensors series.

Collaboration the most important element in the process industry is achieved by using platform software across the plant. Asset Performance platform improves reliability and availability by enhancing the visibility to the health of your assets.
your facility are always connected to assets they care about most. Through open protocols, operational data is centralized and contextualized from sources. The data is delivered to your experts with personalized content and dashboards. The software provides the information you need in a collaborative environment to enhance your workflow and drive corrective actions. It combines the data from multiple applications into asset-centric information, then delivers persona-based alerts and KPIs for improving the reliability of assets throughout the facility. Refer Fig-3 for more.

This empowers and upskills employees to acquire knowledge or experience faster and more effectively and support higher level and collaborative decision-making.

How do you choose which Digital Transformation technologies: Analytics, AI, and Machine Learning to bring about change?

The ability to shorten the product to market timeline, awareness not only that something is wrong but what to do about it, even better the ability to predict and adjust before it happens, and finally to increase mobility not for data but information across the enterprise starts with a plan, a pilot and expansion.

Consulting services help clients envision the value of innovative technologies to accelerate a sustainable competitive edge. Working with clients to perform operational analyses, quantify benefits, evaluate potential investments, develop business cases, and define project requirements to develop project budgets and execution plans. Consulting Services has a track record of solving high stakes problems across all automation industries including Chemical, Life Sciences, Oil & Gas, and Refining.

In Chemical Industry different types of consulting services are available like Lifecycle Strategy, Modernization and Migration, Production Performance, Safety and Security, Operational Certainty Consultant, Measurement Consultant etc.

Addressing the 2nd edition of Indian Chemicals and Petrochemicals Conference (ICPC 2019) organized by Confederation of Indian Industry (CII), the Minister of Chemicals & Fertilizers said, Government’s focus is on strengthening the sector by supporting Industry with development/adoption of new technologies and techniques. Looking at the future, the industry needs to focus on high potential areas like agro-chemicals where India is the 4th largest in the world and specialty chemical.

Minister also assured industry members that Government is actively working towards further improving the investment and business climate in the country and also India’s rank in ease of doing business. Speaking at the ICPC 2019, the Chemicals and Petrochemicals Secretary Shri Raghavendra Rao emphasized on increasing the contribution of the Chemicals sector to 25% of the manufacturing sector GDP. He added that to boost production of chemicals, reduce imports and to make India a Chemical manufacturing hub, Government is focusing on strengthening the clusters, chemical regulations, partnering with academia and industry for skilling and preparing a dashboard for monitoring the entire chemical industry activities.

To arise out of this pandemic stronger, chemical companies should ponder immediate actions, capture unique opportunities from this crisis and align the company towards a new normal with Digital Transformation. The Digital Transformation technology, is strategically focused on guiding chemical industries to the right strategy, helping them drive improved organizational alignment, and implementing programs that accelerate improved business performance". 
Air heating application is very important in any process industry. Mostly heating is used for drying the granules or converting the liquid slurry to the powder. The typical example is the fluid bed drier and sprays driers. In any kind of drying systems, two elements are very important.

The first is encloser, this can only be selected by looking at the product that needs to be dried. For example, if we have granules that are of a big size which are detergent or milk powder (in solid form), etc. At this stage, we need to use a Fluid bed drier with a vibration part, so that the drying is uniform.

The second element is a heating element. This consists of two basic components namely a heat exchanger and fan-motor assembly. The selection of the heating element is very important. In the driers this element is known as radiator. These radiators have three basic elements these are Fins, Tube and Headers (As shown in Figure #1). In this article, we will cover finned surface heat exchangers part only.

**Working of Finned Surface Heat Exchanger:-**

The hot fluid i.e., can be steam, hot water, or thermic fluid. The selection of the fluid depends on what is air temperature required? For example, if we require an air temperature of less than 100 deg. C. We can select plain or DM water as working fluid. If the air temperature required is 110 ~ 120 Deg. C, we can use glycol mix in plain water, water under pressure, steam, or thermic fluid. The selection of the fluid depends on the available heat source and energy source available to create such heating.

Let us study the same by taking some examples. For example, if we are getting waste steam at low pressure from a process, we can use this. In another case, if we are getting even solid waste from some process we can easily adopt it. There may be chances that if we are having flue gases, which is coming out of the process at say 230 Deg. C we can heat up water and use the same for our process. There can be chances that if a process is getting waste plastics, that can be converted into diesel through the pyrolysis process. This can run a burner to generate the energy to convert into the working fluid.

So it is very important to select the energy source, as this is directly proportional to the cost of the final product. A detailed study on the application, method, and available resources can save a great number of effects and finance.

**Material Selection of all the four components:-**

a) **Material Selection of the Heat Exchangers:-** The heat exchangers consist of three basic materials which are fins, tubes, and headers. We need to be very careful while selecting material as wrong selection will result in the non-functioning of the system. Here are some tips for selecting the correct raw material for the finned surface heat exchanger. There are two figures, 2 & 3. The difference between the two charts is that the first chart (figure 2) is for steam as heating media. Chart (figure 3) is the chart using hot thermic fluid oil. There are three color codes in the chart, red represents not recommended, green recommended, yellow is recommended but with special care. These charts
also recommend what kind of welding or brazing material should be used. Very special care is to take care while designing the headers, tube sheet & tubes for the simple reason that there is a great scope of contraction and expansion in the heating application. A wrong selection of the expansion margin can lead to the leakage of the tubes also.

b) Fan & Motor:- To pass air over the heat exchanger the right selection of the fan & motor is also very important. There are two types of fan & motor arrangements that are mostly used.
in air heating systems. The material of the fan & the cowl will depend on the dust or air quality. A close study of the atmosphere is required before installing the systems. They are Forced draft & Induced draft. These are shown in Figures 5 & 6. Figure #4 represents Forced Draft Heat Exchanger & figure #5 represents Induced Draft Heat Exchanger. There are plus-minus points in the selection of both systems. Let us understand the same in more detail.

i) Forced Draft Heat Exchanger: This is the most commonly used system in high-temperature systems. Some of the benefits are, the fan & motors always remain in the cooling zone. The connecting duct also remains in the cooling zone. Since the fan, all the time sucks the fresh and cold air, therefore, the fan size is always small compared to the induced draft. The maintenance of the fans is also easy. The drawback of this system is that air velocity over the heat exchanger is not uniform. To achieve uniform air velocity across the heat exchangers we have to use the air straightening ducts.

ii) Induced Draft Heat Exchanger: This system is used when the air temperature is less than 100 deg. C. The main benefit is that the heat exchanger air side velocity is uniform. The drawback is that a connecting duct has to be insulated. The fan cowl is also to be insulated. It is better to avoid direct drive the fan with a motor. The motor shaft has to be insulated from the fan shaft so that the heat doesn’t flow towards the motors. The other drawback is that the fan size also has to be increased as the air volume will increase when compared with the forced draft heat exchanger.

c) Connecting Duct: The connecting ducts are between the fan & heat exchanger. The selection of the material will depend on the air temperature & environment. The shape of the duct is also very important. A wrong selection of the duct can cause the air side pressure to drop. This will cause a reduction in air volume. With modern software, it is very easy to select the right kind of duct.

d) Air Filtration Systems: It is always good to have an efficient air filtration system in both forced draft & induced draft systems. In the forced draft heat system, the filtration systems have to be added to the suction of the blower. And in the induced draft heating system, the air filtration has to be installed on the air inlet of the finned surface heat exchanger. The selection of the material will depend on the dust present in the air. One of the main points in selecting the filter is that it has to be easy to clean. The material of the filter should be washable so that it can be used for a long time. It is always good to keep a minimum of two sets of filters.

Next Article: In the next edition the author will discuss the way how to select the size of the heat exchanger. This will cover how different materials and heating media, which will help the industry to select the right equipment.

About the author:
Dr. Jagjit Singh Sehra’s life was moved by two personalities, one Sikh’s first Guru Nanak Dev Ji & Other Dr. Abdul Kalam, ex-President of India. Guru Nanak Dev Ji wrote a shalok in Japji Sahib ‘Pawan Guru, Pani Pita, Matta Darat Mahat’, which means Air is teacher and water is a father and they both are nurturing mother earth. Till mankind takes care of these resources nothing will happen on earth. The time has come when we need to blend the laws of Physics and Law of Nature and give solutions to the world on how to save water and air. Humans are searching for life on other planets, the first things they look for are water and air. But on our own planet, we are misusing both. Everyone on this planet is for a short span, we need to educate the people to save the natural resources that have been given free to us. As responsible citizens of the global village, it is everyone’s responsibility to take care of these natural resources and handover a clean environment for the next generation.

Dr. Jagjit Singh Sehra invites people to join him and help companies and society to save water or generate water. You can also get connected with him through his website at www.drjagjitsingh.com or send him an email at sat@drjagjit.com.
The chemicals industry is amongst the most regulated in the world. And it’s not just the operation of the industry that is scrutinised and directed mainly from the point of view of safety. More and more countries are examining the chemicals in commerce and framing rules and regulations permitting most, restricting some, and banning a few on the grounds that they are harmful to human life and/or the environment.

Ideally, regulations should be based on sound science, and while that is the claim most regulations make, the reality is a bit different. Public perceptions of hazards – not risks – and pressures by NGOs – an increasingly active voice – get reflected in the laws made. While the chemical industry has repeatedly stressed the need for rational policy making, it is also coming around to the fact that it will have to play with the cards it is eventually dealt!

In India, the operations of the industry are regulated by several laws that fall under the ambit of a number of ministries of the government – Environment, Forests & Climate Change; Health; Agriculture; Industry; Commerce; to name some. Though some products – like agrochemicals – are regulated (in this case by the Central Insecticides Board), the vast majority of chemicals are not, in the absence of a comprehensive national chemical regulation.

That is expected to change, but, if industry experts are to be believed, the process of coming to a consensus, taking the rules through the bureaucracy, and finding budgetary support will take some doing and time. While a draft of the proposed rules are currently being discussed amongst stakeholders, it is still largely behind closed doors. Surprisingly, the document now under discussion has not yet been put out in the public domain for wider consultations.

The percolation of REACH beyond the EU

Chemical regulation has undergone a profound shift in the last decade or so. An important milestone in the history of chemical regulation came with the entry into force of legislation in the European Union (EU), termed REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals). Till then, the determination of the safety of chemicals was left to governments. REACH shifted the onus of proving safety – and bearing the costs of doing so – on to industry. Predictably, there were protests, but these have, over time, died down and the regulation is now widely accepted by those it impacts (companies in the EU or those that do business with the region).

REACH has also percolated beyond the EU. The underlying structure, rationality and practices of REACH have since been embraced by regulators in China, Korea, Turkey, and Taiwan, amongst others. These avatars of REACH are not as rigorous as the EU one – not surprising considering the varying maturity of the industry.

Draft rules in India

In India, the ‘Draft Chemicals (Management & Safety) Rules, 20xx’ (which name hints that no timelines have yet been set), provide for the notification, registration and restriction on use of substances, mixtures and intermediates placed in the Indian market. These are now being discussed by stakeholders under the stewardship of the Department of Chemicals and Petrochemicals in the Ministry of Chemicals and Fertilisers, Government of India.

The draft rules provide for a three-level of actions and reactions – notification, registration and restrictions – for chemicals in commerce, depending on their safety profile. Simplistically put, as the hazards associated with a chemical become more severe, the compliance demands placed by the draft rules become more rigorous. Those with unacceptable hazards are to be subjected to the strictest controls, which could be limited use (in some applications or till safer substitutes are found) or even outright bans.

Notification of all existing substances

At the primary level, the draft rules call for a notification of all existing substances within a specified period once the rules come into force. At this stage, the information sought by
the regulator is basic: identity of the substance (e.g., its CAS number, IUPAC name), uses (with names of users), the quantity that will be placed in Indian territory (in tonnage bands) etc. This is to be repeated annually.

**Registration – more demanding**

The next level of escalation in compliance – viz. registration – is required by any manufacturer, importer (or authorised representative in case of a foreign manufacturer) who have placed or are intending to place in Indian territory any chemical in a Priority Substance list in a quantity greater than 1 tonne per annum (though the quantity restriction could be lowered based on the recommendations of a scientific risk assessment committee). The timelines in which the registration is to be carried out will be determined by the tonnage band in which the product falls: while a Priority Substance in greater than 1,000-tpa volume needs be registered within 24 months from the date on which these Rules come into force; for those in the 100-tpa to 1,000-tpa band the registration timeline is extended to 36 months; and for those less than 100-tpa further to 48 months.

The Registration requirements are more rigorous than for Notification and require the submission of a Technical Dossier that includes details of the registrant; structural details of the chemicals (including spectral data); identified chemical uses; classification & labelling information (including hazard classification, specific concentration limits etc.); and human & environmental exposure.

There is exemption from registration for intermediates if they are consumed in situ, and not stored or transported (though they still need to be notified).

Suppliers that place Priority Substances in quantities greater than 10-tpa also need to perform a Chemical Safety Assessment and submit a Chemical Safety Report in a prescribed format at the time of registration. For items placed in volumes of less than 10-tpa, an Exposure Scenario will suffice.

**Restrictions for the problematic**

A competent authority will scrutinise the Technical Dossiers and if they are of the opinion that the substance poses an unacceptable risk to human safety or the environment, it may require the Restriction of the substance or may authorise its use under specific conditions. Notifiers and Registrants may seek permission for specific uses of Restricted Substances, by providing scientific justifications.

Like REACH, the Draft Rules provide for companies to collaborate to gather the extensive data required for the Technical Dossiers—in order to save costs and to avoid repetitive testing (especially on animals).

The Draft Rules also provide for actions for the management of chemical accidents.

**Industry concerns**

The concerns expressed by some stakeholders relate to the costs associated with the exercise, as also the procedural hassles when it comes to registrations of Priority Substances, in particular. Though the notification and registration costs are related to the size of the business (with larger companies paying more and SMEs less), there is scope to revise these downward, especially for SMEs. What will, however, be even more critical are the costs associated with compiling the data needed for the Technical Dossiers and the Exposure Scenarios. The apportioning of these costs amongst the members of a consortium (formed for the purpose) was a bone of contention in REACH, even with the regulator, the European Chemical Agency (ECHA) laid down guidelines on how these need to be shared.

There are also worries over the sharing of user and customer data, and fears that there could be ‘leakage’ of this commercially sensitive information. While reassurances on this count are needed, the industry’s suspicion will not go away till it sees actual practice matching the stated intents.

There is little clarity on when the Draft Rules will be finalised and operationalised. There are inter-ministerial consultations still to be had, as well as more extensive discussions with the industry addressing the nitty-gritty of the rules, the costs associated with compliance, the penalties for non-compliance etc. This will take time.

If the European example is anything to go by, it will take a sizeable organisation to manage all this. ECHA operates out of Helsinki (Finland) and is staffed by all sorts of experts, and their operations are backed by robust IT systems. Even making allowance for the fact that the Indian REACH – for want of a better name – is a simplified and watered-down version of the EU legislation, it will still need a dedicated agency, manned by experts in law (especially environmental law), safety, toxicology, etc. Investments will need to be made in secure IT systems through which companies can interface for their filings, some of which repeat year after year. Submissions of reams of paper will simply not do. Provisions will also need to be made to ensure transparency, and mechanisms for redressal of grievances. All this will need substantial budgetary support from the government – at least to get things going.

The process of getting the industry’s buy-in into the legislation also needs to begin as the broad contours are in place.

India needs a robust chemicals policy, mainly because its citizens need the assurance and comfort of knowing that the chemicals it uses in myriad products – often without knowing – do not cause harm. The Indian chemical industry, on its part, must accept this as a cost of doing business, as others elsewhere in the world have.

(Reproduced with the permission from Chemical Weekly, December 15, 2020)
Economic shocks like the coronavirus pandemic of 2020 only arrive once every few generations, and they bring about permanent and far-reaching change.

Measured by output, the world economy is well on the way to recovery from a slump the likes of which barely any of its 7.7 billion people have seen in their lifetimes. Vaccines should accelerate the rebound in 2021. But other legacies of Covid-19 will shape global growth for years to come.

Some are already discernible. The takeover of factory and service jobs by robots will advance, while white-collar workers get to stay home more. There’ll be more inequality between and within countries. Governments will play a larger role in the lives of citizens, spending—and owing—more money. What follows is an overview of some of the transformations under way.

Leviathan

Big government staged a comeback as the social contract between society and the state got rewritten on the fly. It became commonplace for authorities to track where people went and who they met—and to pay their wages when employers couldn’t manage it. In countries where free-market ideas had reigned for decades, safety nets had to be patched up.

To pay for these interventions, the world’s governments ran budget deficits that add up to $11 trillion this year, according to McKinsey & Co. There’s already a debate about how long such spending can continue, and when taxpayers will have to start footing the bill. At least in developed economies, ultralow interest rates and unfazed financial markets don’t point to a near-term crisis.

In the longer run, a big rethink in economics is changing minds about public debt. The new consensus says governments have more room to spend in a low-inflation world, and should use fiscal policy more proactively to drive their economies. Advocates of Modern Monetary Theory say they pioneered those arguments and the mainstream is only now catching up.

Even easier money

Central banks were plunged back into printing money. Interest rates hit new record lows. Central bankers stepped up their quantitative easing, widening it to buy corporate as well as government debt.

All these monetary interventions have created some of the easiest financial conditions in history—and unleashed a frenzy of speculative investment, which has left plenty of analysts worried about moral hazards ahead. But the central-bank policies will be hard to reverse, especially if labor markets remain fractured and companies continue their recent run-up in saving.

And history shows that pandemics depress interest rates for a long time, according to a paper published this year. It found that a quarter-century after the disease struck, rates were typically some 1.5 percentage points lower than they otherwise would have been.

Debts and zombies

Governments offered credit as a lifeline during the pandemic—and business grabbed it. One result was a surge in corporate debt levels across the developed world. The Bank for International Settlements calculates that nonfinancial companies borrowed a net $3.36 trillion in the first half of 2020.

With revenues plunging in many industries because of lockdowns or consumer caution, and losses eating into business balance sheets, the conditions are in place for a “major corporate solvency crisis,” according to one new report.

Some also see danger in offering too much support for companies, with too little discrimination over who gets it. They say that’s a recipe for creating “zombie firms” that can’t survive in a free market and are only kept alive by state aid—making the whole economy less productive.

Great divides

The stimulus debate can feel like a first-world luxury. Poor countries lack the resources to protect jobs and businesses—or invest in vaccines—the way wealthier peers have done, and they’ll need to tighten belts sooner or risk currency crises and capital flight.

The World Bank warns that the pandemic is spawning a new generation of poverty and debt turmoil, and the IMF says developing nations risk getting set back by a decade.

Creditor governments in the G-20 have taken some steps to ease the plight of the poorest borrowers, but they’ve been slammed by aid groups for offering only limited debt relief and failing to rope private investors into the plan.

K-shaped

Low-paying work in services, where there’s more face-to-face contact with customers, tended to disappear
first as economies locked down. And financial markets, where assets are mostly owned by the rich, came roaring back much faster than job markets.

The upshot has been labeled a "K-shaped recovery." The virus has widened income or wealth gaps across faultlines of class, race and gender.

Women have been hit disproportionately hard—partly because they’re more likely to work in the industries that struggled, but also because they had to shoulder much of the extra childcare burden as schools closed. In Canada, women’s participation in the labor force fell to the lowest since the mid-1980s.

Rise of the robots

Covid-19 triggered new concerns about physical contact in industries where social distancing is tough—like retail, hospitality or warehousing. One fix is to replace the humans with robots.

Research suggests that automation often gains ground during a recession. In the pandemic, companies accelerated work on machines that can check guests into hotels, cut salads at restaurants, or collect fees at toll booths. And shopping moved further online.

These innovations will make economies more productive. But they also mean that when it’s safe to go back to work, some jobs just won’t be there. And the longer people stay unemployed, the more their skills can atrophy—something economists call "hysteresis."

You’re on mute

Higher up the income ladder, remote offices suddenly became the norm. One study found that two-thirds of U.S. GDP in May was generated by people working at home. Many companies told employees to stay away from the office well into 2021, and some signaled they’ll make flexible work permanent.

Work-from-home has mostly passed the technology test, giving employers and staff new options. That’s a worry for businesses catering to the old infrastructure of office life, from commercial real estate to food and transportation. It’s a boon for those building a new one: shares in videoconferencing platform Zoom jumped more than six-fold this year.

The option of remote work, along with fear of the virus, also triggered a stampede of urbanites toward the suburbs or countryside—and in some countries, a surge in rural property prices.

Not going anywhere?

Some kinds of travel came to a near halt. Global tourism fell 72% in the year through October, according to the United Nations. McKinsey reckons a quarter of business trips could disappear forever as meetings move online.

With vacations upended and mass events like festivals and concerts called off, the trend among consumers to favor “experiences” over goods has been disrupted. And when activities do resume, they may not be the same. “We still don’t know how concerts are going to be, really,” says Rami Haykal, co-owner of the Elsewhere venue in Brooklyn. “People will be more mindful, I think, of personal space, and avoiding places that are overly packed.”

Travelers may have to carry mandatory health certificates and pass through new kinds of security. Hong Kong based China Tech Global has developed a mobile disinfection booth that it’s trying to sell to airports. Chief Executive Sammy Tsui says it can clear pathogens from the body and clothes in 40 seconds or less. “You feel some cool air on your body, and some mist,” he says. “But you don’t feel wet.”

A different globalization

When Chinese factories shut down early in the pandemic, it sent shock waves through supply chains everywhere—and made businesses and governments reconsider their reliance on the world’s manufacturing powerhouse.

Sweden’s NA-KD.com, for example, is part of a flourishing “fast fashion” retail industry that moves with social media trends rather than the traditional seasons. After deliveries got jammed this year, the company shifted some production from China to Turkey, says Julia Assarsson, head of inbound and customs.

Globalization in Reverse

That’s an example of globalization adjusting without retreating. In other areas, the pandemic may encourage politicians who argue that it’s risky to rely on imports of goods vital to national security—as ventilators and masks turned out to be this year.

Going green

Before the pandemic, it was mainly environmentalists musing over theories of peak oil—the idea that the rise of electric vehicles could permanently dent the world’s demand for one of the most polluting fossil fuels.

But when 2020 saw planes grounded and people staying home, even oil majors like BP felt a real threat from the world getting serious about climate.

Cleaning Up

Governments from California to the UK announced plans to ban the sale of new gasoline and diesel cars by 2035. And Joe Biden was elected with a promise the US will rejoin the Paris Agreement.

(Alkali Bulletin December 2020 | 12)

(The Times of India, 30 December 2020)
Industries across the state were expected to revive their fortunes after the backbreaking national lockdown and Covid-induced slowdown. And, some sectors did manage to stand up despite the challenges. But the sudden surge in raw material prices due to a variety of domestic and international factors has again cast a pall of gloom on several sectors in Gujarat.

Rocketing costs take colour off chemical industry

With the chemical industry heavily dependent on imports of raw materials, anti-dumping duty on certain items from China has led to a rise in raw material prices.

Dyes and intermediate raw materials such as phthalic anhydride, aniline oil and phosphorous trichloride have doubled.

“The cost of production has gone up 30% following an 85-100% increase in raw material prices. At the same time, certain chemicals imported from China being classified under restricted commodities is also causing supply chain constraints as availability is a problem,” said Yogesh Parikh, president, Gujarat Dyestuff Manufacturers’ Association (GDMA).

Indian Chemical Council, Gujarat chapter chairman, Ravi Kapoor said that internal demand for raw materials shot up in China. “High demand for the raw material in China led to shortage apart from demand and supply gap internationally,” Kapoor said.

“Increased raw material prices has dealt a big blow to the industries, particularly MSMEs, which do not have huge cash reserves to sustain their business,” said Bhupendra Patel, chairman – Gujarat region, Chemexcil.

Engineering units gasping for survival

A sudden rise of 30-50% in the cost of raw materials like pig iron, steel and copper has become a cause of concern for the engineering firms. Most manufacturers believe that the surge in raw material prices will squeeze their margins as they haven’t been able to renegotiate prices due to stiff competition in the market.

“China has increased prices of some
raw materials while the restrictions on imports due to Covid-19 too has led to rise in the costs. Industry players in Gujarat now feel that the raw material prices have to be controlled,” said Nilesh Shukla, president, India SME Forum (Gujarat).

“Our profit margin has shrunk because of the unprecedented price rise of raw material. I can’t even quote appropriate prices to foreign buyers due to the uncertainty in raw material costs,” said Parth Ganatra, vice-president, Rajkot Chamber of Commerce and Industry (RCCI).

**Plastic raw materials price swell by 300%**

About 12,000 units in Gujarat are staring at tough times as prices of some raw materials, especially polymers, have shot up by 20-300% in the last five months. A few months ago, the plastic manufacturers were bullish as demand for their products had gone up post lockdown. But the sudden surge in raw material costs seems to have spoilt their plans.

“The plant utilization capacity across the units has declined by 60-70 per cent. Several units, especially the smaller ones, are also facing working capital problems,” said Shailesh Patel, president, Gujarat State Plastic Manufacturers Association (GSPMA). Plastic makers’ margins too have eroded to 3-4% from 8-10% previously.

**Rising costs puts non-woven fabric makers under stress**

An unexpected surge in polypropylene prices has led to rise in the price of spunbond non-woven fabric that is used for making surgical masks and PPE kits being used extensively amid Covid-19 pandemic.

“We are facing a tough time as the price of our raw material (polypropylene) has increased by 26% to Rs 107 from Rs 85% kilogram in just two months. Also, a premium of Rs 30 per kilogram is being charged in the grey market due to its shortage,” said Suresh Patel, president, Non-woven Federation of India (NFWI). As a result, the fabric cost increased by 45%.

Some small units have already suspended their operations as they do not have enough capital to procure raw material at such a high price. Export orders are also affected with some facing cancellations.

**High material costs weaving web around textile processors**

With cost of caustic, coal as well as reactive dyes going up, the textile processing units across Gujarat are hit by an increase in cost of production. Industry players say the operating cost of textile processors have gone up by 20%, putting the sector under immense pressure.

“The cash flow and working capital cycle has been disturbed. In times of the pandemic, textile is one of the adversely hit sectors and with increased cost of production, we will get lesser realisation for both our domestic as well as export orders,” said Nitin Thaker, ex-president, Ahmedabad Textile Processors’ Association (ATPA).

Gujarat is home to at least 600 textile processing units, mostly MSMEs.

Several units don’t have enough capital to meet the increasing cost of raw material that is also affecting their profit margins.

**Soaring costs dull shine of brass parts industry**

A 15% rise in the cost of brass imported to Gujarat from the US has left brass parts makers in the lurch as their cash flow cycle has disrupted. Jamnagar alone houses 5,000 brass products units.

“In brass parts manufacturing, the amount of value addition is relatively less and as a consequence, our margins get impacted,” said Jignesh Shah, director, Material Recycling Association of India (MRAI). Shah also owns a brass parts unit in Jamnagar.

“In a bid to infuse liquidity, the government of India has given calculative and calibrated packages, mostly rolled out in the form of borrowings, which does not help address working capital concerns,” Shah added.

**Realtors seek govt’s intervention**

Alleging cartelization by cement and steel makers, real estate developers’ body CREDAI has written to Prime Minister Narendra Modi seeking the government’s immediate intervention to regulate the prices of construction raw materials. According to CREDAI, since January, the cement and steel prices have increased by 23% and 45% respectively. This has adversely affected the real estate industry.

(The Times of India, 20 December 2020)
The escape of about 40 tonnes of methyl isocyanate (MIC) – a highly toxic chemical – from a storage tank on the premises of the pesticide plant of Union Carbide India Limited (UCIL) in Bhopal – the capital of the State of Madhya Pradesh – on the night of 02/03 Dec 1984 resulted in a horrendous disaster in the city, which was then inhabited by about 9 Lakhs of people. Due to criminal negligence and utter callousness on the part of the plant management in taking adequate safety precautions, water, and other impurities – that cause MIC to react violently – entered one of the MIC storage tanks resulting in exothermic reactions and forcing MIC and its reaction products to escape in the form of froth and lethal gases. The escaping poisonous gases, which were heavier than air, spread across 40 sq. km of the area of Bhopal, covering about 36 of the 56 municipal wards, leaving in its wake more than 25,000 dead (over several years) and inflicting injuries in varying degree on nearly 550,000 others. The pernicious impact on flora and fauna in the affected area was equally grave. UCIL was then under the control of Union Carbide Corporation (UCC) – a U.S. multinational company, which is currently owned by the Dow Chemical Company (“Dow”), a subsidiary of Dow Inc.

Unfortunately, even three and half decades after the disaster, neither the State of Madhya Pradesh nor the Central Government has attempted either to undertake a comprehensive assessment of the ramifications of the disaster or to take necessary remedial measures. The unjust settlement of 14/15 Feb 1989 for a sum of about Rs.705 crores was a complete sham since it was based on the assumption that the total number of gas-affected people were merely 105,000, including 3000 dead. However, by 2004, after adjudication of over 1,000,000 claims, the Union of India was forced to admit that the total number of gas victims was 573,588. Thus, the compensation that was received for 105,000 victims was disbursed among 573,588 gas-victims, which in effect meant that each gas-victim was finally awarded less than one-fifth of the sum allotted even as per the terms of the unjust settlement. As a result, the gas-victims have had to wage concerted struggles not only for adequate compensation but also for proper medical relief and rehabilitation, environmental remediation, and justice. There was little progress during 2020 on the most pressing issues concerning the gasvictims, which is a matter of serious concern. The current status of these issues is as follows:

1. Health

The gross indifference on the part of the State and Central Governments to the health needs of the gasvictims continues to be as grim as ever. Apart from the fact that a fairly large health-infrastructure has been built in terms of buildings and number of hospital beds (with about 1000 beds exclusively for gas-victims) because of pressure exerted over the years by organizations supporting the cause of the Bhopal gas victims, the quality of health care in terms of the investigation, diagnosis, treatment, research, and record-keeping continue to be abysmal as ever. The persistent apathy the Government of Madhya Pradesh in monitoring the health status of the Bhopal gas victims is shocking, to say the least. They have failed to maintain proper medical records of hospitals and clinics through computerization and networking and have failed to supply health-booklet to each gas victim with his/her complete medical record. That proper protocol for the treatment of most gas-related ailments has not been evolved even 36 years after the disaster speaks volumes about the apathetic attitude of the concerned authorities in this regard. Mere symptomatic treatment, over-medication due to lack of proper monitoring, and dispensing of sub-standard and spurious drugs have resulted in an
increasing number of renal failures among gas-victims. Bhopal-disaster-related medical research, which the ICMR had thoughtlessly discontinued in 1994 and which the ICMR was compelled to revive in 2010, is yet to be pursued with necessary vigor. The fact is that neither the ICMR nor the State Government has any idea of the number of gas-victims suffering under each category of disease arising from respiratory, ophthalmic, gastrointestinal, neurological, psychiatric, and other problems. What is equally shocking is that even 36 years after the disaster, most of the gas-victims seeking treatment continue to be classed as suffering from a temporary injury to deny them compensation for permanent injury. Increasing cases of cancer and genetic disorders are matters of grave concern.

1.1 It was because of this utter insensitivity on the part of the Union of India and the State of Madhya Pradesh that the Bhopal Gas Peedidh Mahila Udyog Sangathan (BGPMUS), the Bhopal Group for Information & Action (BGIA), and the Bhopal Gas Peedidh Sangharsh Sahayog Samiti (BGPSSS) had filed a Writ Petition (No.50 of 1998) – as petitioners Nos.1, 2 and 3 – before the Supreme Court on 14.01.1998. The petitioners pleaded for restarting of disaster-related medical research, monitoring & recording the health status of each gas victim, improvement in health care facilities, an appropriate protocol for the treatment of each disaster-related ailment, etc. After 14 years of litigation, and after several interim directions, the Supreme Court finally issued a comprehensive Judgment on 09 Aug 2012 acceding to the above prayers of the Petitioners and issued necessary directions to the Union of India, the State of MP, and to concerned institutions in this regard. The Petitioners were further directed to pursue the matter before the High Court of Madhya Pradesh (as Writ Petition No.15658 of 2012), a task that BGPMUS & BGPSSS are actively engaged in at resent. However, the fact remains that even 89 months after the Supreme Court had passed the said Order dated 09 Aug 2012, neither the UOI nor the State Government has taken the necessary steps to fully comply with all the directions of the Court. What is most appalling and disheartening is that even 36 years after the disaster, proper health records of the gas-victims are not being maintained and, although claims are being made to the contrary, the fact is that most of the gas-victims do not have a hard copy of his/her complete medical record in his/her possession till date. The ICMR (through the Advisory Committee) has also disclosed that over 170,000 gasvictims were regularly seeking treatment at the Bhopal Memorial Hospital & Research Centre (BMHRC) since it was founded in the year 2000.

1.2 Due to the failure of the Respondents to comply with the said Order of the Supreme Court dated 09 Aug 2012, BGPMUS & BGPSSS were compelled to file a Contempt Petition (No.832 of 2015) on 15 May 2015 against the concerned officials of UOI, State of MP and allied institutions such as ICMR, National Institute for Research in Environmental Health (NIREH) and Bhopal Memorial Hospital & Research Centre (BMHRC), After the Government of India took control of the Bhopal Memorial Hospital Trust (BMHT) in 2010, BMHRC was initially placed under the administrative control of the Department of Atomic Energy & Department of Bio-Technology. Thereafter the management of the hospital was handed over to ICMR in 2012 and then to the Department of Health Research (DHR), which is under the Ministry of Health & Family Welfare, in 2015. Concurrently, the Monitoring Committee headed by Justice V.K Agarwal (Retd.) also brought to the attention of the High Court the undue delay on the part of concerned agencies in the implementation of the Monitoring Committee’s recommendations regarding adoption of Central Health Service (CHS) Recruitment Rules (RR) by BMHRC for recruiting doctors and other auxiliary staff and other related matters. As a result, the High Court issued an Order dated 15 Feb 2017 directing DHR to implement the recommendations of the Monitoring Committee within three months. Due to the failure of DHR to comply with the directions of the High Court dated 15 Feb 2017 within the stipulated time, BGPMUS & BGPSSS were again forced to seek further directions from the High Court, including a plea to make BMHRC an integral part of All India Institute of Medical Sciences (AIIMS), Bhopal, which is one of the elite medical institutions in the country, so that the gas-victims are assured the best medical care. Subsequently, in an affidavit filed before the High Court on 18 Nov 2019, DHR has informed the Court that a formal decision has been taken by the Ministry of Health &
Family Welfare, Government of India, to affiliate BMHRC with Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum and that the decision was awaiting sanction from the Union Cabinet. According to current information, control over BMHRC has again been transferred back to ICMR. So far, the Government of India has had no qualms in flouting the Court’s orders with impunity. The crucial issue is to convert BMHRC into a teaching hospital to attract the requisite super-specialists and to ensure that all necessary equipment and medicines are made available to provide the best possible treatment to the gas-victims. The High Court at Jabalpur is slated to issue further orders in this regard soon. BGPMUS & BGPSSS wish to place on record its sincere gratitude to the yeomen service being rendered by the Monitoring Committee, under the chairpersonship of Justice V.K.Agarwal (R), which through its numerous quarterly reports have been appraising the High Court about the abysmal state of the health system that is supposedly catering to the health needs of the gas-victims.

1.3 A shocking and disgraceful act that came to light in 2008 was the illegal manner in which secret drug trials were conducted on gas-victims at BMHRC during 2004-2008. After the matter become public, the authorities at BMHRC made every effort to shield the culprits. BGPMUS & BGPSSS have sought a detailed inquiry into this unsavory incident of using gas-victims as guinea pigs and have demanded stringent action against the guilty. For pursuing the matter, BGPMUS & BGPSSS have become interveners in Writ Petition (C) No.33 of 2012, which was filed by Swasthya Adhikar Manch, Indore, to oppose unregulated drug trials in the country, especially by multinational drug companies, and the matter is currently pending before the Supreme Court.

2. Compensation

Twenty-one years after the unjust Bhopal Settlement of 14/15 Feb 1989, the Union of India had decided to file a curative petition [Curative Petition (Civil) Nos.345-347 of 2010] before the Supreme Court on 03 Dec 2010 against the terms of the Settlement on the plea that the Settlement was based on underestimated figures of the dead and injured. The UOI has sought enhancement of compensation by an additional Rs.7728 crores (over $5 billion) while the total compensation amount under the 1989 Settlement was merely about Rs.705 crores (then $470 million). The petition has been admitted but has not yet been taken up for hearing. BGPMUS and BGPSSS do support the UOI’s Curative Petition in principle regarding the total casualty figure (i.e., 5,73,588 victims, including dead and injured) and regarding the modalities for enhancing compensation (i.e., that it should be based on the Dollar- Rupee exchange rate that prevailed at the time of the Settlement). However, BGPMUS and BGPSSS have serious differences with the UOI’s stand regarding the number of dead (just 5295 according to the Curative Petition) and the seriously injured (just 4944 according to the Curative Petition) and the UOI’s paltry claims for relief & rehabilitation and environmental remediation. The stand of BGPMUS & BGPSSS regarding the number of dead (25,000+) and seriously injured (170,000+) has already been explained in the Special Leave Petition (SLP) that is currently pending before the Supreme Court as SLP (C) No.12893 of 2010, which will be heard only after the disposal of UOI’s Curative Petition. On 24 Oct 2013, BGPMUS & BGPSSS filed an Interlocutory Application in UOI’s Curative Petition (C) Nos.345-347 of 2010 & through an Additional Affidavit dated 07 Sep 2015 to point out the inadequacies in the UOI’s petition and praying for granting appropriate relief. Astonishingly, the Union of India has not attempted to place the relevant ICMR reports before the Claim Courts to enable the Claim Courts to assess fairly the types and gravity of injuries suffered by the Bhopal gas victims. In the absence of proper health booklets, which the ICMR and the State Government had failed to provide to each gas victim, circumstantial evidence would have been very valuable in determining the likely degree of injury suffered by a gas-victim. BGPMUS & BGPSSS hope that the said Curative Petition, which has been pending before the Supreme Court for the last ten years, would be disposed of without further delay but after a health booklet with his/her complete medical record is issued to each gas-victim. Compensation is supposed to be awarded in terms of the category and degree of injury but as of now, gasvictims are left without the means to prove the same. Computerization of health records and networking of the records of the various hospitals and clinics treating gas-victims as well as providing each gas-victim with his/her complete medical record is a prime necessity in this regard.

3. Criminal Case

The criminal cases against the accused are supposedly proceeding at two levels: one against the three absconding accused and the other against the nine accused who appeared before the Chief Judicial Magistrate (CJM), Bhopal, to face trial. Through Judgment and Order dated 07 Jun 2010, the CJM had prosecuted eight accused (one of the accused is dead) under Section 304-A, 336, 337 and 338 of IPC. The CBI, the State of MP, and BGPMUS &
BGPSSS had filed Criminal Revision Petitions against the said Judgment before the Sessions Court, Bhopal. The CBI had sought enhancement of charges against Keshub Mahindra and 7 other accused from Section 304-A to Section 304 Part-II of IPC based on evidence already before the CJM. BGPSSS & BGPSSS have expressed their utmost displeasure at the extremely slow pace at which the criminal case has been proceeding and their demand for setting up a special court to speed up the proceedings has not yet been acceded to by the State Government. Currently, the Appeals filed by the eight Accused against the sentencing is being heard by the Sessions Court, Bhopal. In a last ditch attempt, the accused persons racked up the “sabotage” theory as the cause of the Bhopal disaster to absolve them of their responsibility in causing the same. However, their antics have not provided them any succour so far.

3.1 Ten to fourteen days imprisonment at the time of arrest in 1984 is the only privation that seven of the accused (Nos. 2 to 9) have suffered so far (accused No.4 has not faced even that inconvenience to date!!) Under the circumstances, the accused are least perturbed about the likelihood of being imprisoned any further in their lifetime, and the next of kin of the dead and the surviving victims are left with not even the faintest hope that justice would be rendered to them in their lifetime for the loss & suffering they have had to endure during the last 36 years. This apathy speaks volumes about the pathetic state of the criminal justice system in the country that renders justice only on a selective basis. When the governments at the Centre and the States are not serious in pursuing a criminal case, they can scuttle the due process with impunity and, thereby, make a complete mockery of the criminal justice system.

3.2 The criminal case against the three absconding accused, namely accused Nos.1, 10, and 11, which has been pending before the Court of the CJM, Bhopal, as Miscellaneous Judicial Case (MJC) No.91 of 1992 has also been proceeding at an equally tardy pace. After acceding to the plea of BGPSSS, BGIA and BGPMS dated 07 Sep 2001 the CJM had issued notice to the Dow Chemical Company (Dow), USA, on 06 Jan 2005 to appear in the criminal case on behalf of the absconding accused No.10, Union Carbide Corporation (UCC), SA, which had become a wholly-owned subsidiary of Dow in 2001. However, on 17 Mar 2005, the MP High Court at Jabalpur stayed the said order of the CJM at the urging of a purportedly non-party in the matter without issuing notice to the petitioners. The stay was vacated only 7 years later on 19 Oct 2012, when the High Court finally upheld the validity of the CJM’s Order dated 06 Jan 2005. After BGPSSS & BGPMS brought the ruling of the High Court to the attention of the CJM, Bhopal, through an Application dated 30 Nov 2012 in MJC No.91/1992, the CJM re-issued notice to Dow on 24 Jul 2013; 01 Mar 2014; 12 Nov 2014 and on 22 Jan 2016. On 11 Jul 2016, the CBI informed the concerned Judicial Magistrate, Bhopal that the Ministry of Home Affairs (MHA) had forwarded the notice to the U.S. Department of Justice on 01 Feb 2016, and a reminder was further sent by the MHA on 15 Jun 2016. However, Dow has repeatedly failed to respond to the notice. The concerned magistrate has issued notice to the Union of India for the seventh time on 13 Nov 2019 to produce accused No.10 by 20 Jan 2020. Meanwhile, the proceedings against accused no.1, Warren Anderson, have become infractuous after his demise on 29 Sep 2014. Union Carbide Eastern (Hong Kong), accused No.11, was wound up several years ago.

3.3 On 19 Nov 2016, BGPSSS & BGPMS had filed an application urging the CJM, Bhopal to proceed ex parte for consideration of Application dated 07 Sep 2001 in terms of the orders of the CJM dated 15 Jun 2004 and 06 Jan 2005 against the Dow Chemical Company for willful violation of summons of the CJM and to record evidence against the accused. The lackadaisical manner in which the trial against the accused in the criminal case has proceeded for the last thirty-six years makes a mockery of the criminal justice system in the country. Neither the Central Government nor the State Government appears to be serious in pursuing the criminal cases against the accused, including the new entity Dow Inc., which is indicative of their total lack of commitment to the cause of the gas-victims.

3.4 Interestingly, in response to an application filed by Abdul Jabbar Khan and Shanawaz Khan on 15 Jun 2010, the CJM Bhopal on 19 Nov 2016 ordered a case to be registered against Moti Singh, a retired IAS officer, and Swaraj Puri, a retired IPS officer, under Sections 212, 217 and 221 of IPC for sheltering Accused No.1, Warren Anderson, and allowing him to escape from Bhopal on 07 Dec 1984. Although summonses were issued to Mr.Singh and Mr.Puri to appear before the Court on 08 Dec 2016, they filed an appeal for a stay before the Bhopal Sessions Court, which dismissed the plea. Thereafter, Moti Singh and Swaraj Puri filed a petition MCRC no. 15788/2017 under Section 482 of CRPC before the MP High Court, which upheld their plea vide judgment dated 01 Aug 2018. Jabbar and Shanawaz filed an appeal against the High Court ruling before the Supreme Court, which summarily dismissed the case in 2019.

4. Environmental Remediation

Toxic waste that was generated during UCIL’s operation from 1969 to 1984 was dumped in and around the plant leading to severe soil and water contamination. A comprehensive study to estimate the extent and gravity of the damage has not been carried out by the Centre or the State Government to date. Instead, the magnitude of the problem has been
neither the State Government nor localities of Bhopal is highly polluted, while groundwater in several areas in and around M/s Union Carbide India Ltd., Bhopal that was jointly carried out by the National Environmental Engineering Research Institute (NEERI), Nagpur, and the National Geophysical Research Institute (NGRI), Hyderabad, during 2009-2010, it was estimated that “the total quantum of contaminated soil requiring remediation amounts to 11,00,000 MT [metric tonnes]”(p.68). Since the Government of India has submitted that the private incinerator at Pitampur (Indore) has been suitably upgraded to prevent any toxic emission, the Supreme Court had permitted test-incineration of toxic waste currently stored at the Bhopal plant. The matter has not proceeded any further since then.

4.1 Based on the “Polluter Pays Principle”, it is the duty and responsibility of Dow Inc., USA, which currently owns UCC, to meet the cost of remediating and clean up comprehensively the affected environment in and around the UCIL plant with the latest available remediation technology. Similarly, the cost of providing safe drinking water to the affected plant too has to be borne by Dow Inc. However, the responsibility for providing safe drinking water to the affected population is entirely that of the State Government, which has not fulfilled this responsibility till now. While groundwater in several localities of Bhopal is highly polluted, neither the State Government nor the Bhopal Municipal Corporation has undertaken any scientific study to monitor the situation and take remedial action. Moreover, residents who fall sick because of the consumption of polluted water are not even provided free medical treatment.

4.2 Remediation of the estimated 1,100,000 MT of contaminated soil is a far more difficult task. At the initiative of the Centre for Science and Environment (CSE), Delhi, a preliminary attempt was made in April 2013 to bring together on a common platform the various stakeholders (including BGMUS & BGPSSS) and experts to prepare an Action Plan to remediate the degraded environment. While a draft Action Plan has been worked out, it requires further refinement as well as inputs from other experts and stakeholders, including the Government of Madhya Pradesh, which refused to attend the workshop organized by CEC. The stoic indifference of the State Government to this daunting task is alarming. In situ decontamination of the toxic waste (including the contaminated soil & groundwater) using closed-loop remediation technologies is a possibility. With inputs and technical help from the UN Environment Programme (UNEP), onsite cleaning up of the contaminated site in Bhopal is quite feasible. However, the Government of India has to take the initiative in inviting the UNEP to undertake this task. During 2020, attempts were made by BGPSSS and Hazards Centre with the support of Dr. D.P. Misra, former President of the Indian Institute of Chemical Engineers and Former Director-General of the Indian Chemical Council to persuade officials in the Ministry of Chemical & Fertilizers to take the initiative to organize a virtual meeting of all stakeholders to work out a tentative plan for remediating the contaminated site in Bhopal. We are hoping that some progress would be made in this regard in 2021.

5. Relief & Rehabilitation
Over the last 36 years, the State Government has failed to address adequately and with sensitivity a host of socio-economic problems that confront the chronically sick, the elderly, the differently-abled, the widowed, the orphans, and other vulnerable sections among the gas-victims. Out of the 150-odd work-sheds that were constructed to run training and employment programs, only 4-5 are functional now, all the others have been shut down. Economic assistance received by the central government has not been properly utilized till now. Some of the work-sheds that are functional are being run by local voluntary organizations. The special industrial area set up in the Govindpura industrial area that has 152 work-sheds has been handed over to the Madhya Pradesh industry department. However, the condition that employment in the industries that are set up will only be given to gas affected victims and their dependents has been removed.

5.1 The pittance, which was disbursed as compensation in most instances to these sections was never enough to take care of their daily needs. Finding gainful employment by the reduced capacity to work and to lead a dignified life has been a serious challenge. Similarly, only partial steps have been taken by the state and central government for providing life support pension to gas-widows and persons disabled because of the gas disaster. The State Government has to give far more attention and provide far larger support to the most vulnerable sections of gas-victims than in the past. During the COVID 19 pandemic period, the living conditions of these sections have become even more precarious. (This article was originally published in the December 2020 edition of Chemical Industry Digest. All publishing rights reserved with Chemical Industry Digest and is republished in Alkali Bulletin with permission of the CID magazine.)
Gujarat Alkalies and Chemicals Ltd - Dahej observed Chemical Disaster Prevention Day on 4th December 2020, as a homage to the victims of the Bhopal Gas Tragedy and realize the importance of Safety and usage of PPEs. The objective was also to accentuate the importance of chemical safety at our plant.

On the night of 2-3 December 1984, the world’s worst industrial disaster unfolded in Bhopal when poisonous gas leaked out of the Union Carbide factory in the city killing more than 2,000 people and injuring thousand others. Since then, the 4th of December is observed as Chemical Disaster Prevention Day every year.

On the occasion of Chemical Disaster Prevention Day, GACL decided to verify the effectiveness on Emergency preparedness and response. SE&F Department, GACL conducted Mock drill in chlorine bullet area.

For concluding session, brief Meeting was held at site with GACL Officers & external expert team from M/S The Safety Masters-Bhiwadi team including Sh D C Thakur (Complex Head), Sh. R S Patil (GM- Process) as an incident controller, Sh. M B Patel (DGM- S,E,F Fire). Excellent coordination and preparedness in emergency was observed by team.

Mock Drill was conducted on 04.12.2020 at 15:20 hrs, details are as below:

Surprise Chlorine gas leakage Mock Drill was conducted at chlorine bullet area in presence of external expert team from M/S Safety Masters-Bhiwadi. Mock Drill Report is as follows:

**Mock Drill Report**

Mock drill was conducted on 04.12.2020 at 15:20 hrs, details are as below:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Time hrs</th>
<th>Activity</th>
<th>Observation</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>15:20</td>
<td>Dummy chlorine gas leakage from pressure gauge at Chlorine bullet F.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>02</td>
<td>15:21</td>
<td>Noticing deviation in chlorine PPM level, CSP control room I/C communicated to CCR, Fire, OHC.</td>
<td>Good appropriate action: Control room person contacted on Hot line.</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>15:24</td>
<td>Process team arrived at affected location with SCABA set and required PPE. Team verified situation and informed Incident controller for raising emergency.</td>
<td>Appropriate action:</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>15:24</td>
<td>Simultaneously Section in-charge, and other plant staff rushed to site with PPE.</td>
<td>Appropriate action:</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>15:25</td>
<td>Emergency Siren was blown and announced on PA System too by security.</td>
<td>Appropriate action:</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>15:26</td>
<td>Fire Crew reached the site and continued their activities.</td>
<td>Appropriate action:</td>
<td>Good observation- Fire tender arrived at spot with safe route (wind direction)</td>
</tr>
<tr>
<td>07</td>
<td>15:27</td>
<td>Sprinkle system started forming a water curtain which acted as a barrier for gas spread.</td>
<td>Appropriate action:</td>
<td>Water logged in emergency gate, water drainage system needs to verify.</td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
<td>Appropriate action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08 15:28</td>
<td>Ambulance reached site with blowing siren.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09 15:29</td>
<td>Security Crew reached the site and continued their activities.</td>
<td>Security personnel started traffic control and shifted employees to safe location.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 15:30</td>
<td>Evacuation of casualty completed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 15:34</td>
<td>Mutual aid fire tender (DMC) arrived on site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 15:35</td>
<td>Fire team reported no casualty left in d area.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 15:38</td>
<td>Concentration of Cl2 were monitored and found below 2 ppm. Same communicated to Emergency controller by security team &amp; CSP control room.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09 15:40</td>
<td>All clear siren raised. (Manual intimation to all the key locations)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OHC observation**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Appropriate action</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 15:26</td>
<td>Call received from CCR regarding emergency and immediately Ambulance deployed.</td>
<td></td>
</tr>
<tr>
<td>11 15:39</td>
<td>Ambulance were sent outside for further treatment of one causality.</td>
<td></td>
</tr>
</tbody>
</table>

**Material Gate observations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Appropriate action</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 15:25</td>
<td>Call received from CCR regarding emergency.</td>
<td></td>
</tr>
<tr>
<td>13 15:27</td>
<td>Security Inspector with vehicle and guard departed.</td>
<td></td>
</tr>
<tr>
<td>14 15:28</td>
<td>Material gate staff contacted Visitor gate staff regarding emergency. Security at material gate ensured vehicle movement restriction.</td>
<td></td>
</tr>
<tr>
<td>15 15:41</td>
<td>Call received from CCR for emergency over.</td>
<td></td>
</tr>
</tbody>
</table>

**CCR Observations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Appropriate action</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 15:25</td>
<td>CCR received call from CSP C/R regarding emergency</td>
<td></td>
</tr>
<tr>
<td>17 15:25</td>
<td>CCR in-charge informed various dept as per ERP.</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions of observers:**

In case of emergency person has to use emergency communication system for easy and spot communication. Action to be taken by – All control room incharge CCR in-charge has to inform on Hotline in case of emergency. Action to be taken by – CCR I/C

**OBSERVERS (S&E)**     **Chief OBSERVERS (Outside)**     **DGM (S,E&F)**
**S&E Team**             **Mr. Gangaram Jansari**             **Mr. M B Patel**
Some Pictures of Mock Drill
Jal Shakti Ministry to Focus on Water Testing

The Tribune | 29 December, 2020

Amid implementation of its Jal Jeevan Mission (JJM) to provide piped drinking water to every rural household, the Union Jal Shakti Ministry has mounted “Innovation Challenge” to develop portable devices for water testing. The Ministry said the challenge will be in partnership with the Department of Promotion of Industry and Internal Trade.

“The main objective of the exercise is to bring an innovative, modular, and cost-effective solution to develop portable devices that can be used at the household level to test the drinking water quality instantly, easily and accurately,” a Ministry official involved with JJM said.

Water quality testing is one of the components of JJM.

https://www.tribuneindia.com/news/delhi/jal-shakti-ministry-to-focus-on-water-testing-190998

19 crore rural households to get tap water by 2024

The Hindu | 27 December, 2020

Since its launch in August 2019, the Centre’s ambitious flagship scheme JJM, which in partnership with the States seeks to ensure that every rural household of the country gets assured drinking water supply by 2024, has achieved 32.3% coverage of tap connections in rural India, emerging as a key scheme in the Narendra Modi administration’s second term.

The Modi government is almost replicating its successful implementation of its flagship scheme of building toilets in the first term in providing tap water connections to every rural household in the country in its second term. In its first term from 2014-19, the Centre built over 11 crore toilets in the country, which helped in achieving the zero open defecation status.


JJM target for 2020-21 achieved in SWGH

The Shillong Times | 27 December, 2020

South West Garo Hills district has made considerable progress in the implementation of JJM providing safe drinking water to more than 3,000 rural household through functional household tap connection (FHHTCP) and achieved the target set for the financial year 2020-2021. An inspection to some of the villages covered under the scheme in the current financial year saw that the FHHTCs or individual piped water connections right at their doorsteps have brought about a much-needed relief to the villagers, who otherwise had to walk long distances to collect water from available sources.


PM Modi to release operational guidelines for JJM

The Times of India | 24 December, 2020

The Centre’s most recent flagship scheme JJM to provide drinking water to 14.6 crore rural households- is set to be operationalized with Prime Minister Modi to release the Operational Guidelines on December 25, 2020- Good Governance Day. The new guidelines will emphasise the critical role of the gram panchayat level paani samiti or village committee to run and maintain the water supply system in their community and also bring in systems for water use charges. The New Mission will underline the need for a clear and definite O&M policy at the state level which will involve a water user charge mechanism by ensuring ‘cost recovery from user groups and thereby avoiding any unwanted burden on public exchequer’, the new guidelines suggest. JJM envisages a structural change in the provision of drinking water supply services, official said. It will bring in a utility based approach’ centred on ‘service delivery

7 J&K districts to get water connection by June 2021, rest by December 2021

The Economic Times | 18 December, 2020

Every household in seven out of the total 20 districts of Jammu and Kashmir will get a water connection by June 2021. There will be 100 per cent piped water supply to all the households in the 20 districts of the union territory by December 2021, against the national target of 2024.

During a one-day workshop on the implementation of the ambitious ‘Jal Jeevan’ mission in the union territory, Commissioner Secretary, Public Health Engineering, Ajeet Kumar Sahu said, a three-phased strategy has been devised to achieve objectives under this initiative with Phase I to be completed by June 2021. The seven districts -- Srinagar, Ganderbal, Shopian, Pulwama, Reasi, Poonch and Samba -- and 52 additional blocks from other districts would be taken up for providing tap water connections to all the households, he said.

“To achieve the outlined objective, a detailed action plan has been prepared by the department. Phase I is already under implementation while other phases are under preparation,” Sahu said.


Modi Govt Begins Survey of 6 Cr Tap Connections in Villages to Assess Water Quality, Quantity

The Print | 15 December, 2020

As work picks up pace under the Narendra Modi government’s flagship Nal Se Jal Mission, aimed at providing drinking water connections to all rural households by 2024, the Centre has started a nationwide survey to assess the quality and quantity of water being supplied through the existing 6 crores tap water connections. Of these, approximately 2.55 crore connections came up after August 2019, when the Nal Se Jal programme was launched. The other connections had come up under central and state schemes prior to that.


278 lakh households provided tap water connections under JJM

The Economic Times | 16 December, 2020

278 lakh households have been provided tap water connections under the JJM which was announced on August 15 last year, the Jal Shakti Ministry said. At present 6.01 crore rural households in the country are getting potable water through taps.

Eighteen districts across the country have provided tap connections to all households and states are competing with each other to ensure tap water supply to every home, it added.


Panchkula, Ambala have 100% functional tap connections in rural households

Outlook India | 16 December, 2020

Panchkula and Ambala in Haryana have 100 per cent functional tap connections in rural households under JJM.

These two districts have bagged the title of “Har Ghar Jal Se Jal” districts under JJM, which aims to ensure access to sustainable drinking water through piped water connection to every rural household by 2024, Additional Chief Secretary of Public Health Engineering Department Devender Singh said.

He said Haryana is fully aligned with the Union government in this flagship programme and committed to provide Functional Household Tap Connection (FHTC) to every rural household in the state by December 2022, way ahead of the national target of 2024.

Singh said while Panchkula has 34,433 FHTCs in four blocks Pinjore, Raipur Rani, Morni and Barwala, Ambala has 1,19,431 FHTCs in six blocks -- Ambala I, Ambala II, Barara, Shahzadpur, Naraiangarh and Saha.

National Jal Jeevan Mission team visits Andhra Pradesh to provide technical assistance & help the State to realize the goal of ‘Har Ghar Jal’ by 2023-24

PIB | 05 December, 2020

Team of 6 members from the National JJM (NJJM) is visiting AP during 2-5 December, 2020 to provide technical assistance to the State to realize the goal of ‘Har Ghar Jal’ under the flagship programme, JJM as well as identify different issues and challenges and to document good practices. The team is visiting different parts of the State and interacting with field-level officials involved with the implementation of water supply schemes as well as Gram Pradhans and members of Gram Panchayats. The team is also holding meetings with the Chairperson of District Water & Sanitation Mission/District Collector to brief them about the progress and seek their intervention for speedy implementation of the programme.


National JJM Team Visits Jharkhand To Provide Technical Assistance To Expedite Implementation With Focus On Prudent Investment

PIB | 03 December, 2020

In continuation to the discussions held at the mid-year review of planning and implementation of Jal Jeevan Mission in Jharkhand to provide tap water connections in all households, a team from National Jal Jeevan Mission is visiting the State from 2nd to 5th December, 2020 to see the implementation in the field and extend technical assistance to expedite the implementation with a focus on prudent investment. In a 4-day tour of the State, teams of 2 members each will visit 4-5 villages daily in the district depending on the feasibility.

The team will interact with the Gram Panchayats/Village Water & Sanitation Committees, local community and PHED officials as well and will see the community participation and institutional arrangements made for the implementation of the mission to provide assured water supply to rural homes. Also, the team will interact with the respective District Collectors and Chairperson of District Water and Sanitation Mission and debrief Secretary, department of Drinking Water & Sanitation at the State headquarter. The teams are visiting different villages in Ranchi, Hazaribagh and Gumla Districts.

Reactive chemistry incidents can happen anywhere!

Do you think that you do not have to worry about potential reactive chemistry incidents because your workplace has no intentional chemical reactions? Don’t be fooled – reactive chemistry incidents can happen almost anywhere. Here are two examples.

On November 7, 2019, in Burlington, Massachusetts, USA, a restaurant employee accidently spilled a cleaner called “Scale Kleen” on the floor. Later, another employee began to clean the floor using a different cleaner, called “Super 8.” These materials react to release toxic chlorine gas. The restaurant was evacuated. Unfortunately, the restaurant manager was overcome by the fumes and died in the hospital. According to the material safety data sheets, Super 8 contains nearly 10% sodium hypochlorite (bleach), more concentrated than the usual household bleach. Scale Kleen contains both nitric and phosphoric acids, at a total concentration of nearly 40%.

A few days later (Nov. 19), at a restaurant in nearby Woburn Massachusetts, two cleaning solutions were mixed, and toxic fumes were released. The restaurant was evacuated, and three people were hospitalized as a precaution.

Did You Know?

- Many materials used in cleaning and maintenance operations are potentially reactive with other substances. This includes cleaning products; their reactivity may be one of the reasons they make good cleaning agents.
- The reactivity of bleach with other materials, such as acids, is a known hazard. The June 2016 Beacon discusses the reaction of sodium hypochlorite bleach with ammonia to generate toxic chloramines.
- Potentially reactive cleaning materials may contact your process chemicals if they are not completely removed from the equipment following cleaning operations.

What Can You Do?

- Read the safety data sheets for all materials used in your workplace, including those used for cleaning, maintenance, lubrication, water treatment, and utilities such as heating or cooling fluids.
- Recognize that safety data sheets cannot describe all potential reaction hazards of a material. Ask a chemist or other technical expert about potential reactivity hazards among the specific materials in your plant.
- Consider all potential reactivity hazards whenever you bring a new material into your plant.
- Follow cleaning procedures rigorously, especially make sure all cleaning agents have been completely removed before returning equipment to service.
- Never mix materials without understanding potential reaction hazards and necessary safeguards.
- Read the June 2016 Beacon (available at https://www.aiche.org/ccps/resources/process-safety-beacon/archives) for more information about bleach reactivity hazards.
- Share this Beacon with family and friends – this type of incident can happen anywhere, including your home!

Dimensionally Stable Anodes and Cathodes (Titanium, Nickel & Steel)
Ruthenium - Iridium based
Mixed Metal Oxide based
Platinum - Iridium based
Platinized Ti / Nb based
Ruthenium based
Palladium based
Iridium based


marketing@tiaano.com www.chloralkalianode.com
Created for those in search of perfection...!
Import monitoring system being developed for several sectors: Commerce Ministry

The Free Press Journal | 31 December 2020

The commerce ministry said an import monitoring system is being developed for several sectors, including aluminium, copper, footwear, furniture, sports goods, and gym equipment.

The system would help gather advanced information on imports of these products and make it available to the stakeholders, including government and domestic industries. The system is already in place for steel and coal, the ministry said while enlisting significant highlights of the Department of Commerce during 2020.

During April 1 and December 30, the directorate general of trade remedies (DGTR) has initiated 43 anti-dumping, four countervailing duty, and one safeguard investigations to support domestic manufacturers.

“Average time taken to initiate an anti-dumping investigation has been brought down from 43 days in 2018-19 to 33 days in 2019-20 and the average time for completing an investigation has been brought down to 234 days in 2019-20, from 281 days during 2018-19 and more than 400 days in previous years,” it added.

Technical regulations were formulated for 176 products (worth USD 49.9 billion), and similar norms for 371 goods are in progress.

Gujarat announces new solar power policy 2021

Indian Express | 30 December 2020

The Gujarat government has announced the state’s new solar power policy which will be valid for the next five years.

The policy offers multiple incentives to reduce the share of coal-based power and move towards green energy. Among other highlights, it has done away with the ceiling on installed capacity and has allowed consumers to lease their premises or roofs to third parties for setting up plants to generate and consume power in the same premises. As per the new policy, the state government of Gujarat would purchase surplus energy from residential and micro, small and medium enterprises consumers after setting off against their consumption. Surplus power will be allowed to be sold at a tariff of Rs 2.25 per unit.

India should now aggressively pursue FTAs with EU, U.K

The Hindu | 25 December 2020

With European Union and the U.K. clinching a post-Brexit trade pact, India should now aggressively pursue free trade agreements (FTAs) separately with both the regions, according to experts.

Although it is premature to assess the gains for India from the agreement between European Union (EU) and the U.K., Indian goods would not get much benefit from this pact, they said. However, India can explore opportunities in service sectors like IT, architecture, research and development and engineering in both the markets as the EU-U.K. pact does not cover services.

“There is not much gain for Indian goods, but we can gain in services sector in both the U.K. and EU markets. We will gain more in the U.K. market as we are English speaking country,” Federation of Indian Export Organisations (FIEO) Director General Ajay Sahai said. He said there are no specific customs duty benefits for domestic goods from this agreement.

“Now we should push the FTA negotiations with both the EU and the U.K. Indian competitors like Vietnam have greater duty advantage in sectors like apparel and marine goods,” Mr. Sahai said.

Sharing similar views, Biswajit Dhar, a professor of economics at Jawaharlal Nehru University, said India had a lot of contentious issues while negotiating FTA with the EU. However, after Brexit, the U.K. could have different stand on those issues and now “India should pursue FTA talks again with both the regions”.

Rakesh Mohan Joshi, professor at Indian Institute of Foreign Trade (IIFT), said that after the trade deal with the EU and the U.K., India will get a better opportunity to cater to the demands of both the markets.

Britain clinched a historic deal with the European Union on Thursday as both sides managed to thrash out a post-Brexit free trade agreement just days
The bilateral trade between India and the U.K. dipped to USD 15.5 billion in 2019-20 from USD 16.9 billion in 2018-19.

**India in talks with Argentina & Brazil to sign trade pacts**

*The Economic Times | 24 December 2020*

India is in talks with Argentina and Brazil to ink trade pacts with the two largest markets in South America as it seeks to strengthen trade with the region. New Delhi already has a preferential trade agreement (PTA) with Mercosur, a trading bloc of Argentina, Brazil, Paraguay and Uruguay, but officials said the bloc’s internal issues have come in the way of expanding the extant pact, hence the need for bilateral agreements. “We are trying for separate pacts with Brazil and Argentina,” an official in the know of the development told ET. “These two are the biggest markets in that region and have shown interest in trade pacts.” The talks are at a nascent stage, the person said. “Mercosur countries have their internal problems and talks to expand the PTA are stalled,” the official said.

The four-nation bloc has been grappling with various issues such as government changeovers and uncertainty over membership.

India’s exports to Argentina in the April-September period this year stood at $276.34 million while imports were $1.16 billion. Major items of export include two wheelers, iron and steel, agrochemicals, organic chemicals, bulk drugs and drug intermediates, and motor vehicles, whereas imports include vegetable oils (soya bean and sunower), finished leather, cereals and pulses. During the same period, India exported $1.65 billion worth of goods to Brazil including auto components, pharmaceuticals and petroleum products, and imported $1.12 billion worth of merchandise, mainly crude oil, gold, vegetable oil, sugar and bulk mineral and ores. “Though freight is a disadvantage, a bilateral or trilateral pact with Brazil and Argentina can be beneficial to India,” Federation of Indian Export Organisations (FIEO) director general Ajay Sahai said.

India has a PTA with Chile in South America and is negotiating a free-trade agreement with Peru.

**Want to invite global community to innovate in India: PM Narendra Modi**

*Business Standard | 23 December 2020*

Prime Minister Narendra Modi invited the global community to innovate in India, invest in the country and its talent and said the government is ready to accept any challenge and improve research environment in the country.

In his inaugural address at the India International Science Festival (IISF) 2020, the PM said the biggest long term challenge science faces is to attract high quality youngsters and retain them. He said the government’s efforts are aimed at making India the most trustworthy centre for scientific learning.

One of the steps taken to achieve this is hosting and participating in hackathons to provide exposure and opportunity to Indian scientists, he said. Modi also gave a call to the global community to invest in Indian talent and innovate in India.

Modi pointed out that there are many challenges in the country like water scarcity, pollution, soil quality, food security, for which modern science has solutions. Science also has a big role in rapidly exploring the water, energy and food resources in the sea, the PM noted.

He said India is running Deep Ocean Mission for this and has achieved success, adding the benefit of new inventions in science finds a way in commerce and business as well.

Modi said India has a rich legacy in science, technology and innovation and its scientists have done path breaking research.

**Industries in Gujarat get ‘raw’ deal as material costs surge**

*The Times of India | 20 December 2020*

Industries across the state were expected to revive their fortunes after the backbreaking national lockdown and Covid-induced slowdown. And, some sectors did manage to stand up despite the challenges. But the sudden surge in raw material prices due to a variety of domestic and international factors has again cast a pall of gloom on several sectors in Gujarat.

With the chemical industry heavily dependent on imports of raw materials, anti-dumping duty on certain items from China has led to a rise in raw material prices.

Dyes and intermediate raw materials such as phthalic anhydride, aniline oil and phosphorous trichloride have doubled.

“The cost of production has gone up 30% following an 85-100% increase in raw material prices. At the same time, certain chemicals imported from China being classified under restricted commodities is also causing supply chain constraints as availability is a problem,” said Yogesh Parikh, president, Gujarat Dyestuff Manufacturers’ Association (GDMA).

Indian Chemical Council, Gujarat chapter chairman, Ravi Kapoor said that internal demand for raw materials shot up in China. “High demand for the raw material in China led to shortage apart from demand and supply gap internationally,” Kapoor said.

“Increased raw material prices has
dealt a big blow to the industries, particularly MSMEs, which do not have huge cash reserves to sustain their business,” said Bhupendra Patel, chairman – Gujarat region, Chemexcil.

About 12,000 units in Gujarat are staring at tough times as prices of some raw materials, especially polymers, have shot up by 20-300% in the last five months. A few months ago, the plastic manufacturers were bullish as demand for their products had gone up post lockdown. But the sudden surge in raw material costs seems to have spoilt their plans.

“The plant utilization capacity across the units has declined by 60-70 per cent. Several units, especially the smaller ones, are also facing working capital problems,” said Shailesh Patel, president, Gujarat State Plastic Manufacturers Association (GSPMA). Plastic makers’ margins too have eroded to 3-4% from 8-10% previously.

Door for India to join RCEP remains firmly open: Australian Minister

Live Mint | 18 December 2020

The door for India to join the fifteen-member Regional Comprehensive Economic Partnership (RCEP) agreement remained firmly open from Australia’s perspective and the country was also looking forward to re-engagement on the bilateral free trade agreement, Australian Minister Simon Birmingham has said.

The Minister was speaking at the virtual launch of the Australia Economic Strategy Report at the CII partnership summit.

Birmingham added that he was particularly looking forward to the countries’ re-engagement on the India-Australia Comprehensive Economic Cooperation Agreement (CECA). The negotiations on the CECA, launched way back in 2011, were discontinued due to a number of differences between the two countries including in areas such as agriculture and services.

However, as part of the comprehensive joint strategic partnership between the two countries launched by Prime Minister Narendra Modi and his Australian counterpart Scott Morrison in June this year, it was decided to re-engage on the CECA. The decision was taken especially because India had walked out of the RCEP, a free trade pact between the ten-member ASEAN, China, Australia, New Zealand, Japan and South Korea, because of its concerns related to China.

The Australian Minister pointed out that bilateral trade in goods and services has doubled in the last five years and 2019, India was Australia’s eighth-largest trading partner and fifth-largest export market with two-way trade and services valued at $29 billion.

Commerce & Industry Minister Piyush Goyal pointed out that while Australia was a valued trading partner, India’s exports to the country were moderate and dialogue was on to create more opportunities for India to expand its footprints in the country and bridge the gap. He said that while mining had been the mainstay of India’s engagement with Australia, newer areas of cooperation were emerging such as power, railway, gems & jewellery, auto, pharmaceutical, healthcare and agri-business.

The Australia-India trade basket has to become bigger, better and more balanced, he said.

The Australia Economic Strategy report prepared by India and the India Economic Strategy report by Australia can provide a good middle ground for talks and outline areas of cooperation, Goyal said. “This can dovetail into our negotiations for CECA which Simon and I started and I do hope that under the new Minister we will be able to take it forward,” he said.

Goyal said Australia & India have been working together even more closely on the strategic front, be it Malabar exercises, QUAD groupings and the partnerships on several strategic areas. This close collaboration will feed into our economic partnership also in the years to come, he said.

Non-tariff measures gain currency in drive to rev up economy

Business Line | 18 December 2020

India has in recent months been pushing non-tariff measures to check imports of goods so that local production capacity can be ramped up to meet demand and help protect jobs, a trend industry watchers expect to continue in 2021.

The preferred way is to impose quality control norms and shift items from the free import category to a restricted class where a licence would be needed. The increasing importance of non-tariff measures as a policy tool highlight a key concern for the government. In certain sectors, the subsidising capacity of the exporting nation far exceeds any tariff protection India can give to competing local producers.

In June, India restricted import of tyres used in bicycles, scooters, motorcycles, cars and trucks. In July, New Delhi followed it up with action on television imports. All sorts of television sets were shifted from the free import category to restricted, which means a specific authorization has to be sought to import the product.

Last week, India announced quality standards on import of household refrigerators and freezers, which will come into force on 1 January 2022. Once in force, importers have to comply with the norms of the Bureau of Indian Standards (BIS), the certifying and enforcement authority. Quality
norms have been imposed on toys from 1 September.

“Licensing requirement and quality specifications by BIS have been among the steps the central government recently employed to promote domestic manufacturing and product quality in focus areas. This trend is likely to continue in the near term given the policy emphasis on supporting the domestic manufacturing industry,” said Abhishek Jain, tax partner, EY.

This complements the other two measures at the government’s disposal— incentives for local production and higher import tariffs. The 6% production-linked incentive (PLI) and a 10% basic customs duty on imported competing products could give a 16% cost advantage to local products over imports.

“Customs duty changes can also be expected in sectors where the government intends to promote local production. Higher customs duty on imports and incentives for local production are expected to give local manufacturing a leg up,” Jain added.

Targeting incentives and other measures towards certain sectors, rather than spreading these measures thin across large swaths of the economy, has found favour as an approach with the policy makers, said Uday Pimprikar, tax partner and national leader, indirect tax services, EY India.

In June 2019, India had imposed retaliatory tariffs on 28 items imported from the US following America’s withdrawal of preferential access for Indian products and its refusal to exempt Indian steel and aluminium products from higher import tariff. The services sector has also faced trade tension over the last few months with the US trade representative (USTR) initiating a probe into the 2% tax India introduced from April on non-e-commerce firms. New Delhi maintains it is a fair, reasonable, and non-discriminatory tax aimed at all offshore digital companies accessing the Indian market and is not aimed at American companies.

### Traders vie for export incentives, tax breaks

**Live Mint | 18 December 2020**

Leading trade-focused industries are hoping the 2021 Union Budget will have sops to help them tide over the effects of a global recession.

Industries that focus heavily on both exports and imports have made representations to finance minister Nirmala Sitharaman seeking sops, including duty drawbacks, an extension on tax breaks for export-oriented special economic zones (SEZs) and simpler rules on international e-commerce shipping.

Recent trade data backs the call for a government boost. With renewed curbs imposed by some trading partners causing exports to falter, India’s trade deficit rose to a 10-month high of $9.9 billion in November. Merchandise exports last month slumped by almost 8.7% to $23.5 billion against $25.77 billion in November 2019. The fall was largely led by petroleum goods, leather, marine products and engineering goods, while essential commodities such as rice, cereals, fruit and vegetables, meat and poultry, spices and pharmaceutical products continued to see growth. Credit ratings agency ICRA said it expects the size of the merchandise trade deficit to nearly double in October-December, compared with Q2, with imports recovering on the back of an improvement in economic activity, a rise in commodity prices and a pickup in demand for gold during the festive and marriage season.

“Simultaneously, the fresh curbs imposed by some major trading partners to ward off rising covid infections, are likely to arrest the improvement in exports,” it added.

### No restrictions on import of raw materials, intermediate goods

**Live Mint | 17 December 2020**

Union finance minister Nirmala Sitharaman said the Centre will continue to discourage import of finished goods so that Indian entrepreneurs can ramp up production under the Atmanirbhar Bharat Abhiyan to meet demand, but will not restrict import of raw material or intermediate goods.

“We did not stop imports. We only made them expensive by putting some duties on them. So nothing is closed for imports. But clearly we don’t want to support imports of those goods which you (Indian industry) are producing and those services you are capable of providing. We are conscious that raw material support and intermediary goods support through imports will have to be carried on. We will continue with that,” Sitharaman said at the annual plenary session of the Indian Chamber of Commerce (ICC).

Prime Minister Narendra Modi’s announcement on Atmanirbhar Bharat was primarily aimed at being in a position of strength as India looks to make a mark in the global value chain, Sitharaman said. “Indian entrepreneurial strength should be given greater impetus. So, when we spoke of Atmanirbhar, it is not to close the doors to India and windows out of India. It was more to say build the strength of the Indian entrepreneur, give him all the support he requires so that those commodities he is providing by producing them and the services that he was providing because he is specialized in it cannot be eroded by imports,” she said.

The Union cabinet last month cleared production-linked incentive schemes for 10 sectors, such as telecom and networking, and pharmaceuticals, with a total outlay of ₹1.5 trillion. The
schemes seek to make Indian manufacturers globally competitive, attract investment in areas of core competency and cutting-edge technology, ensure efficiencies, create economies of scale, enhance exports, and make India an integral part of the global supply chain.

The finance minister conceded that no amount of government intervention and fiscal generosity would have been adequate to address the massive disruption caused by the covid-19 pandemic.

**Economy seeing clear signs of revival: FM**

*Business Line | 17 December 2020*

The Indian economy is witnessing “clear signs of revival” and this has to be sustained, said Union Finance Minister Nirmala Sitharaman. She added that government is seeking suggestions from industry captains and different chambers of commerce on how to sustain this growth momentum.

Referring to the previous interactions she had with industry captains, Sitharaman said that such constant engagement have strength to see through the Covid-19 situation and helped the government come up with different stimulus packages. She conceded that disruption caused by the pandemic was so huge that “any amount of intervention would not be adequate.”

According to the Minister, India’s macro economy is fundamentally strong. This has been reiterated through “inward flow of FDIs” rather than FIIs coming in.

“The government has already made it clear, even during the Pandemic, that it’s disinvestment efforts are going on fine,” Sitharaman said.

Labour reforms and agricultural sector reforms have also been taken up indicating that opportunities for “systematic changes” will not be let go of.

**India to drop unilateral digital taxes once global consensus builds up**

*Live Mint | 16 December 2020*

India will drop its ‘equalisation levy’ on e-commerce once global consensus builds up on a more equitable tax rule covering tech giants, said a government official.

“The individual steps that India and other countries have taken specifically to tax digital economy firms indicate that the rules that exist today are not adequate to address the concerns around the erosion of tax base,” said Rasmi Ranjan Das, joint secretary in the finance ministry. Das said that lack of a global deal on how to tax technology companies that access customers in countries where they have no physical presence could lead to chaos.

While it may not be possible for India as a country to wait for the global consensus on the issue to tax income generated in India by offshore tech firms, India is part of a general agreement that once a consensus is ready, all unilateral measures will be withdrawn, said Das.

New Delhi has been working closely with the G20 and BRICS nations to evolve a global deal on taxation rights over technology companies. However, common ground has been elusive on this emerging area of corporate taxation with some of the EU nations and India facing the disapproval of the US.

In the absence of a global deal, India introduced a 2% tax on e-commerce from April this year, expanding the ‘equalisation’ levy that was in place since 2016. Equalisation levy had originally targeted payments made to non-resident tech firms such as social media platforms for hosting online advertisements targeting Indian consumers.

The expansion of the levy to cover e-commerce led to the US initiating a trade investigation. India maintains equalisation levy on e-commerce is a fair, reasonable and non-discriminatory tax aimed at all offshore digital economy firms accessing Indian market and was not targeted at American corporations.

EU nations like France and the UK too had gone ahead with their plans to step up taxes on offshore digital economy firms that access their local consumer base electronically.

Last month, finance minister Nirmala Sitharaman said at the BRICS finance ministers and central bank governors’ meeting that a consensus on taxation of digital economy firms was key to a sustainable and fair tax system.

**Trade deficit at 10-month high on decline in exports**

*Live Mint | 16 December 2020*

India’s outbound shipments contracted for the second consecutive month in November as the second wave of the coronavirus pandemic hit consumer demand in its largest markets in Europe.

Exports fell 8.7% while imports contracted 13.3%, with the trade deficit at a 10-month-high of $9.9 billion, according to revised trade data released by the commerce ministry.

China’s exports, in contrast, rose 21.1% in November, the fastest pace since February 2018, while imports grew 4.5%, leading to a record trade surplus of $75.4 billion.

Major items that affected India’s exports performance include petroleum products (-59.7%), engineering goods (-8.1%), chemicals (-8.1%), and readymade garments (-1.2%), while pharmaceuticals (11.1%), gems and jewellery (4.1%), and electronic goods (1%) registered growth. Items that drove imports and trade deficit include non-ferrous metals (9.1%), chemical products (36.1%), electronic goods (12.3%), fertilizers (29.3%), and gold (2.7%).
The slide in non-oil exports growth was led by renewed restrictions in trading partners that outweighed the optimism related to an early availability of covid-19 vaccines, according to Aditi Nayar, principal economist, ICRA Ltd. “This trend may continue in the winter, before an uptrend takes root in Q4 FY21. ICRA expects the size of the merchandise trade deficit to nearly double in Q3 FY21 relative to Q2 FY21, with imports recovering on the back of an improvement in economic activity, a rise in commodity prices and pick-up in demand for gold during the festive and marriage season,” she said.

The current account surplus is expected to decline substantially in Q3 FY2021 and Q4 FY2021 from $19.8 billion in Q2 as domestic recovery strengthens, Nayar said. “Overall, ICRA expects India’s current account balance to post a sizeable surplus of $35-40 billion or around 1.5% of gross domestic product (GDP) in FY21, in contrast to the deficit of $25 billion or 0.9% of GDP in FY20,” she said.

India’s merchandise trade has been weakening even before the pandemic hit the economy and external demand. In 15 of the past 17 months starting June 2019, exports have declined. However, since March this year, both exports and imports began to fall in high double-digits, even temporarily leading to a trade surplus in June for the first time in 18 years.

Global merchandise trade declined by 21% in the June quarter, data compiled by the World Trade Organization (WTO) showed. The volume of world merchandise trade will decline 9.2% in 2020, followed by a 7.2% rise in 2021, according to WTO projections. In April, the trade body had said that global merchandise trade would drop 13% to 32% in 2020 because of the pandemic.

**Investment in construction, infra key to sustain demand growth**

*Financial Express | 16 December 2020*

The primary take out of the call for Atma Nirbhar Bharat relates to a robust and efficient manufacturing sector in India. It has suffered as the economy had deviated by thrusting the growth of the service sector ahead of manufacturing, while primary sector continued to observe a secular decline in share of GDP. Thus it came as a pleasant surprise that manufacturing having degrowing for last months has now entered the positive trajectory by clockwise a growth rate of 3.6% in October ‘20.

The Industrial production that entered in the positive range in the last month (0.5% rise in September’20) continued to clock 3.6% growth in October. In the manufacturing sub-segments, the growth is observed in 1) rubber and plastic products (15.5%), 2) pharmaceutical products (12.9%), 3) food products (2.5%), 4) leather and related products (3.4%), 5) Chemical products (9.6%), 6) non-metallic mineral products (3.3%), 7) other manufacturing (10.6%), 8) fabricated metal products (13.4%), 9) computer, electronic products (10.9%), 10) electrical equipment (20.3%), 11) motor vehicles and trailers (17.7%), 12) other transport (26.6%), 13) machinery and equipment (4.4%), and 14) basic metals (5.6%).

It is interesting to note that out of the above sub-segments in the positive category for the first time after the pandemic, the segments under categories 8-14 belong to steel industry. One must keep in mind that the indices of these groups include the updated production figures of July and September’20. The festive impact of the month of October in pushing the order flow and therefore the output as well as the pent up demand giving impetus to further rise in order flows are factors that can be said to be transient.

However, from the user segment point of view, it is certain that growth in 2 and 3 wheelers, passenger cars and tractors have been observed for the last few months and finally, albeit slowly, the trend is spreading to other user segments as well.

The use-based output indices indicate that capital goods (power equipment, fabricated metal product, transformers, material handling equipment, cranes, agriculture machineries, mining machineries, commercial vehicles, wagons and coaches etc) have clocked 3.3% growth in October’20. The infrastructure/ construction goods output (steel framework, railway products, pipes, tubes, steel casing etc.) rose by 7.8% in the month.

Growth in manufacturing and industry signal an improvement in the commodities market. After the pent up demand has been unlocked, it is now the time for the industry to consolidate its position, restructure and strengthen the supply chain in order to move fast to reach the consumer.

**Industry, govt. have to partner for India to become USD 5 trillion economy by 2025: Piyush Goyal**

*Financial Express | 15 December 2020*

The industry and government have to partner to achieve the target of India becoming a USD 5 trillion economy by 2025, Union Minister Piyush Goyal said. The commerce and industry minister also expressed confidence in the capabilities of the business community as well as startups which can make India the top economy globally in the next 25-30 years.

“But the challenge is for us to accept. When we celebrate 100 years of Independence in 2047, can we all not resolve to be the number one economy in the world?,” Goyal said at a virtual conference organised by the Indian Chamber of Commerce. Today the world is looking at India as a trusted
partner in its quest for resilient global supply chains, he pointed out.

By leveraging all this, India can become the “factory of the world, just like we are today recognised as the pharmacy of the world,” he added. “We will all work as one, work as a team, industry and government have to partner to truly ensure that we reach our 5 trillion dollar economy target by 2025, 10 trillion dollar maybe in another seven-eight years after that,” the minister added.

A vibrant Budget coming to ensure economic revival: FM

Business Line | 15 December 2020

The forthcoming Budget will be a vibrant one that will ensure economy’s sustainable growth, according to Finance Minister Nirmala Sitharaman. She also said that the disinvestment process will gather momentum.

“We shall definitely sustain the momentum of public spending in infrastructure as that is one way by which we assure that the multipliers will work and the economy’s revival will be sustainable. I am conscious that the forthcoming Budget will have a vibrancy that is required for sustainable revival,” Sitharaman said in her address to Assocham Foundation Week on Tuesday.

On disinvestment, she said: “The pace of disinvestment will now gain a lot of momentum. Those which have already got Cabinet approval will be taken up with all earnestness.” This year, the government has set a target of ₹2.10 lakh crore through disinvestment, which includes stake sale in LIC and IDBI.

Sitharaman said the government borrowing was pegged at ₹7-lakh crore in the Budget estimates for 2020-21, but it was later revised upwards to ₹12-lakh crore. As of November 20, to ensure that expenditure does not suf-

fer, the government market borrowing has already touched ₹9.05-lakh crore, which is about 68 per cent more than last year.

The Minister said the emphasis on public expenditure for infrastructure through CPSEs will definitely be kept up and the National Infrastructure and Investment Fund (NIIF) is doing its best to attract funds from abroad. Also, the National Infrastructure Pipeline (NIP) is being given priority, she added.

Enhanced UK-India business ties can lead to free trade pact: Raab

Business Line | 15 December 2020

India and the UK are working towards an ‘Enhanced Trade Partnership’ next year which hopefully will be a stepping stone for a free trade agreement in the future, UK Foreign Secretary Dominic Raab has said addressing a joint press conference with Minister of External Affairs S Jaishankar following their bilateral meeting in New Delhi on Tuesday.

The meeting focussed on the five themes of connecting people, trade and prosperity, defence and security, climate and health.

The UK Foreign Secretary pointed out that bilateral trade between India and the UK was already growing before the pandemic and had posted an increase of 11 per cent (to about £24 billion) in the last fiscal. Making his observation on the visit, Jaishankar said that its timing was important as it was taking place when a post-Covid and a post-Brexit world were being looked at.

While the UK exited the EU on January 31, 2020, most rules and regulations guiding the relationship between the two remained the same during the eleven-month transition period which will end on December 31, 2020. “India-UK relationship, which was already big and growing, has the potential to be scaled up. Raab

Budget 2021: India Inc seeks competitive import tariffs, I-T rate cut

The Economic Times | 15 December 2020

Competitive import tariffs, a cut in
personal income tax rate, abolition of minimum alternate tax, banking licences for corporates, reduction in government holding in public sector banks, and an aggressive disinvestment programme to fund steps to boost growth top India Inc’s wish list for budget 2021.

Sitharaman held two rounds of discussions with the industry on the first day of the 10-day pre-budget consultation exercise.

India can become global leader in advanced manufacturing

Financial Express | 12 December 2020

N Chandrasekaran, chairman, Tata Group, said that India today has an opportunity to become a global leader in research and development, science and technology, and most importantly in AI, advanced manufacturing and, therefore, the next set of products and services.

Underscoring the importance of investment in health, education and skills, Chandrasekaran said that Asia’s miracle economies grew on the back of investment in these areas. “When we look back to the Asian miracle economies of the past few decades, we are often pre-occupied with their strategy of manufacturing-led export growth. What if the miracle was not this strategy, but rather the tremendous investments they made in health, education and skill in their economies? The outcome was their ability to capitalise on the world’s demand for manufactured goods,” he said at FICCI’s 93rd annual convention.

Chandrasekaran also said that there has to be a collaborative role between the industry and the government. While the industry should be bold and start visioning all project at scale, the government should enable this partnership and made India ready to participate in this new world. “It (government) should ensure that every village has sufficient bandwidth, affordable data and establish the regulatory standards that are required on data privacy, data residency, data localisation and taxation in general,” he said.

He also highlighted that if India’s first plan for 21st century’s growth is digital, the second plan is the new approach to global value chains.

Government taking steps to make India competitive in global economy: Amitabh Kant

The Times of India | 12 December 2020

Niti Aayog CEO Amitabh Kant said the government is taking a series of measures to make India highly competitive in the global economy and stressed that the country must get into the sunrise areas of growth. He said the government is also working towards bringing down the cost of logistics.

Kant further added that the production-linked incentive (PLI) scheme for 10 key sectors, which the government announced last month, should spur growth in manufacturing in a big way.

“The objective was to provide a major impetus to manufacturing and exports, and this (PLI scheme) is one of the biggest schemes that the government has come out with to support the private sector in manufacturing. It is a $26-billion scheme, which provides production-linked incentives in 10 champion sectors and this five years of support should spur growth in manufacturing in a big way,” he said. Kant also said the PLI scheme is a focused scheme, it is not an investment subsidy scheme.

The 10 sectors, for which the government has announced the PLI scheme, are related to advance chemistry cell battery, electronic/technology products, automobile, pharmaceutical, and telecom and networking products.

India has reduced emission intensity of GDP by 21%: Javadekar

Business Line | 12 December 2020

India has already reduced the emission intensity of its Gross Domestic Product (GDP) by 21 per cent over 2005 levels, according to Minister for Environment, Forest and Climate Change, Prakash Javadekar. This is in line with India’s commitment to significantly reduce the emission intensity of its GDP by 2030. But other major countries are not as diligent.

“Under the Nationally Determined Contributions (NDCs), that were adopted five years ago through the Paris Agreement, India committed to reduce the emission intensity of GDP by 33–35 per cent by 2030…We have already achieved 21 per cent,” Javadekar said.

“The remaining 12–13 per cent will be achieved in the next 10 years. Even though the Paris Agreement was forged in 2015, it will be implementable from 2021,” he added.

The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC). It is aimed at addressing concerns pertaining to greenhouse-gas emissions mitigation, adaptation, and finance. This is a legally binding international treaty on climate change and was adopted by 196 Parties at Conference of the Parties (COP) 21 in Paris, on December 12, 2015.

“Probably we are the few countries whose actions are compliant with the Paris Climate Change Agreements. India is the only major country that is complying with the promise of trying to keep global temperatures from rising below 2 degree Celsius by 2030,” he added.
New Parliament building a milestone in India’s democratic history: PM

Press Trust of India, New Delhi | December 10

Prime Minister Narendra Modi laid the foundation stone for the new Parliament building on Thursday and described the event as a “milestone in India’s democratic history”. asserting that if the old Parliament House gave the direction to the country post-independence, the new one would be witness to the making of an ‘Aatmanirbhar Bharat’.

Addressing the gathering after laying the foundation stone and performing the ground breaking ceremony, Modi urged the people to take a pledge to keep ‘India First’ and asserted that every decision should increase the strength of the country, whose interest is paramount.

Asserting that India democratic traditions predate the Magna Carta, a 13th century document many scholars consider as the framework for a modern republic, the prime minister said that the day is not far when the world will term India “mother of democracy” if Indians extol the country’s democratic history with confidence.

“It is very historic day. Today is a milestone in India’s democratic history....We, the people of India, will together built this new building of parliament,” Modi said, adding that the new building will be an inspiration when India will celebrate 75 years of Independence.

The new building, whose construction is likely to be completed in 2022, will have an area of 64,500 square meters. It will also have a grand Constitutional Hall to showcase India’s democratic heritage, a lounge for members of Parliament, a library, multiple committee rooms, dinning area and ample parking space.

“The current Parliament building played an important role in pre and post independent India. The first government of Independent India was formed here and the first sitting of Parliament took place here, our Constitution was drafted here, our democracy was re-established here. Babasaheb Ambedkar and others, after deep deliberations in the Central Hall, gave us a Constitution,” he said.

Covid-19 aftermath: India lags behind Asian peers in export growth

Financial Express | 07 December 2020

India has emerged as the worst performer among key developing economies in Asia in merchandise exports in the aftermath of Covid-19, trailing not just the usual stars China and South Korea but also Vietnam, Indonesia, Malaysia and even Bangladesh. Between March and October, India’s exports grew year-on-year, in only one month (September), while both China and Vietnam recorded expansion in six of these eight months and Bangladesh in three months, according to the official data of these countries. Malaysia posted expansion in four months (based on export value in its local currency, and not dollar). Although outbound shipments from South Korea and Indonesia, too, faltered in seven of these eight months, their slide was far less steep than India’s.

The data show that while India’s exports, on an average, contracted in excess of 20% a month in the March-October period from a year before, China and Vietnam, in fact, saw a rise of about 4% each. Exports from South Korea slid by an average of about 9% a month during this period, while those from Indonesia shrank by more than 7% and Malaysia by over 4%.

Only Bangladesh, thanks to its excessive reliance on garment exports, saw the pace of decline closer to India’s, as dozens of large retail outlets in its biggest importers, the US and the EU, either went bankrupt or shut shop temporarily in the wake of the pandemic.

Not surprisingly, India is set to record a slide steeper than 9.2% forecast by the WTO for global exports in 2020 if the current trend holds through.

To be sure, India imposed a much more stringent lockdown (from March 25 until it was eased gradually from June) than any of these nations. A domestic demand compression battered its imports much harder than its exports. Consequently, import-sensitive export segments, too, saw a sharp drop. Also, India was among the last set of nations where the pandemic spread its tentacles, which means it should be among the last to stage a rebound. To that extent, the contraction in its exports is understandable.

But what signals a deeper problem in India’s export resurgence story is the loss of momentum since the 6% expansion in September, the first since February. Its outbound shipments faltered by 5.1% in October and, according to preliminary estimates, the contraction just exacerbated to 9.1% in November.

Exporters complain that a combination of a spike in shipping costs since August, the rupee appreciation and a huge reduction in government benefits when they are struggling to cope with the pandemic has eroded their competitiveness. The allocation under the Merchandise Exports from India Scheme for the first three quarters of this fiscal has been cut to less than 40% of last year’s total.

The rupee was “over-valued” by close to 21% vis-à-vis a basket of 36 export-sensitive currencies in September, against almost 19% in the previous month and just over 17% in March, according to the RBI’s real effective exchange rate index.
The government and the central bank have stepped in to boost liquidity for cash-strapped firms. But credit flow still remains stunted. Moreover, as the economy goes through a “reset” phase following the unlock and the government launches production-linked incentive schemes, manufacturing may see a sustained pick-up in the coming months and exporters will likely respond. But that revival will take time to materialise and is contingent upon sustained — and substantial — government benefits, exporters say.

The government is supposed to roll out a scheme from January 1, 2021, to reimburse various embedded taxes on inputs consumed in exports and replace the MEIS (the latter is considered by some wings of the government to be an inefficient programme that only drains the exchequer). But the extent of benefits under the proposed scheme is shrouded in uncertainty. Given the structural bottlenecks, including high logistics costs, exporters await the next foreign trade policy, which will remain in effect for five years from April 1, 2021.

**Shipping costs skyrocket, exporters feel the heat**

*Financial Express | 05 December 2020*

Ahead of the crucial Christmas season, shipping costs have skyrocketed since August, compounding woes of exporters already grappling with a string of adversities this year — from a Covid-induced cancellation of orders and exodus of migrant labourers to a drastic cut in government benefits.

Freight for a 20-foot container for shipments from Mumbai to Dubai zoomed 25 times, from just $10 before August to $250 now, said Vivek Aggarwal, director (sales and marketing) of major food exporter Capital Ventures and vice-chairman of the food and beverage committee of the state-backed Trade Promotion Council of India (TPCI).

Similarly, the freight rate has shot up by more than seven times for Singapore and five times for Hong Kong since August. It surged 282% for Australia, 117% for Qatar, 185% for Stockholm, 181% for New Zealand and 108% for New York, Agarwal said. A slide in imports in recent months and the consequent decline in the number of vessels entering India for unloading supplies has been a major contributor to the shortage of containers, exporters say.

This has inflated the shipping bills of exporters, who used to book these containers at reasonable costs for onward delivery. Importantly, the sudden spike in freight calls for a grand shipping strategy, as the government plans a sustained push to domestic manufacturing to trim imports and boost exports.

On average, the freight cost has gone up by 190% for various destinations in West Asia and by 159% and 54% for those in Europe and the US, respectively, since August, forcing exporters to seek government intervention. No wonder, having grown by over 6% in September, the first year-on-year rise since February, exports dropped again in October. Of course, analysts partly attribute the higher September shipments to exporters rushing to honour earlier commitments upon the gradual lifting of lockdown curbs since June.

In its presentation to commerce and industry minister Piyush Goyal at the Board of Trade meeting on Wednesday, the Federation of Indian Export Organisations, too, highlighted the issue. It pitched for the expansion of the Shipping Corporation of India or wooing key private players to set up large national shipping companies.

At the same time, it wants Indian Shipyards to manufacture containers to address short supply. It also pushed for a regulator in the shipping sector to approve levy of any charge by the shipping lines.

**RBI announces measures to improve ease of doing business for exporters**

*Business Line | 04 December 2020*

The Reserve Bank of India announced a slew of measures that would help exporters by cutting down on paperwork and faster approvals and refunds.

The RBI has now proposed direct dispatch of shipping documents and has removed the $1-million ceiling on export shipments for this.

“It has been decided to remove the monetary ceiling to enable AD banks to regularise such cases, where export proceeds have been realised, irrespective of the value of export shipment,” said the RBI. At present, AD Category-I banks (AD banks) can regularise cases where dispatch of shipping documents was made by the exporter directly to the consignee or his agent if the amount per export shipment is up to $1 million.

It has also been decided to delegate the power of allowing write-off to the AD banks, without limits in specified circumstances. Further, AD bank will be permitted to handle such write-off requests even if documents had been directly dispatched by the exporter, said the RBI.

“A large number of cases will be closed by banks, providing write-off of unrealised exports value exceeding 10 per cent of previous calendar years exports, without referring to the RBI. This will save the transaction time of exporters,” said Sharad Kumar Saraf, President, Federation of Indian Export Organisations (FIEO).

The RBI said it has also been decided to permit AD banks to allow Indian companies to set-off their export receivables against import payables for goods and services with their overseas group or associate companies, either on net basis or gross basis through a
centralised treasury arrangement.
AD banks will now also be able to consider refund requests without insisting on import of goods, which are perishable in nature, or had been auctioned or destroyed by the Port, Customs. Health authorities or any other accredited agency in the importing country subject to production of documentary evidence, the RBI further said.

At present, if refund of export proceeds to the overseas importer is required to be made due to poor quality of the goods exported, AD bank permits it only subject to re-import of the goods.

Centre’s skill development programme gains momentum
Business Line | 02 December 2020

Over 180 million or 69 per cent of the country’s youth population between the age of 18 and 34 years live in its rural areas. Of these, the bottom of the pyramid youth from poor families with no or marginal employment number about 55 million.

The Centre’s ambitious Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), a placement-linked skill development programme for rural poor youth under National Rural Livelihoods Mission (NRLM), was launched in September 2014.

Out of 10.78 lakh, rural youths trained under DDU-GKY over 6.27 lakh (58 per cent) have got placement till date. Over 4.50 lakh trained youth are still to get a job in the market under this scheme run by the Ministry of Rural Development.

The overall target of the scheme is to train and get placement for 28,82,677 rural youth by March 2022. As per the data available on DDU-GKY website, Tamil Nadu, Andhra, Telangana, Odisha and Jammu and Kashmir have reported placement of more than 70 per cent trained youth. Himachal Pradesh, Uttar Pradesh and Sikkim are the States where less than 30 per cent of trained youth have got placements.

Kerala, Maharashtra, Haryana and Karnataka are among the States where more than 50 per cent of the trained youth have got placement. Against the total target to train youth, Odisha has commenced training of 70 per cent, while Arunachal Pradesh has started only two per cent programmes. Jammu and Kashmir, Rajasthan, Jharkhand, Kerala, Haryana, Madhya Pradesh and Assam are the States which have started training more than 50 per cent of the given target.

According to the DDU-GKY website, the scheme is tasked with the dual objectives of adding diversity to the incomes of rural poor families and cater to the career aspirations of rural youth. DDU-GKY is uniquely focused on rural youth between the ages of 15 and 35 years from poor families.

As a part of the Skill India campaign, it plays an instrumental role in supporting the social and economic programmes such as Make in India, Digital India, Smart Cities and Start-Up India, Stand-Up India campaigns.

There is a mandatory coverage of socially disadvantaged groups, i.e for SC/ST-50 per cent, minorities-15 per cent, and women 33 per cent under DDU-GKY. DDU-GKY follows a funding pattern of 60:40 between Centre and State generally. DDU-GKY is working with 736 Project Implementing Agencies having 1,602 projects with 1,738 training centre across the country.

Exports dip 17.84% in April-November this fiscal: Commerce secretary
The Times of India | 02 December 2020

The country’s exports declined by 17.84 per cent during April-November this fiscal while imports contracted by 33.56 per cent in the same period, commerce secretary Anup Wadhawan said. The trade deficit has come down.

“In 2020-21, April to November, there has been a decline of 17.84 per cent in our exports...If we exclude gems and jewellery and petroleum, then the decline is lower....In the sectors where economic activity is more meaningful in terms of value addition, there the decline is much lower,” he said at the Board of Trade meeting.

Speaking at the occasion, commerce and industry minister Piyush Goyal said that going forward, there is every possibility to achieve export target of a trillion-dollar by 2025.

Different arms of the government have been working to identify and support specific sectors where India has advantages, he said. “We have identified 24 industry sectors, which we believe, can add Rs 20 lakh crore of annual production manufacturing in India...I would like to appeal to the states to supplement the efforts of the central government,” he added.

Govt looking at higher outlay for RoDTEP scheme for exporters
Business Line | 02 December 2020

The government is examining the possibility of expanding the outlay for the new Remission of Duties or Taxes on Export Products (RoDTEP) scheme, from the estimate of ₹10,000 crore made by the NITI Aayog earlier this year, to ensure that a larger number of sectors are offered the benefit when the scheme replaces the popular Merchandise Export from India Scheme (MEIS) in the new year.

“Since the reimbursement scheme for the textiles sector, RoSCTL will get subsumed in RoDTEP once it is launched, an estimated outgo of ₹7,500 crore will have to be set aside for it. If the outlay for RoDTEP is limited to ₹10,000 crore, as earlier es-
timated, that would just leave ₹3,000 crore for all the remaining sectors. The Centre is now feeling the need to expand the outlay in order to ensure a wider coverage of the new scheme, and there are discussions underway,” a government official told BusinessLine.

The Finance Ministry may now be looking at an outlay of ₹16,000 crore-₹17,000 crore for the RoDTEP scheme, or more, but a final decision has not yet been taken, the official added.

The RoDTEP is designed to reimburse the input taxes and duties paid by exporters, including embedded taxes, such as local levies, coal cess, mandi tax, electricity duties and fuel used for transportation, which are not exempted or refunded under any other existing scheme.

With Indian exports down 19 per cent in the April-October 2020 at $150.14 billion, exporters are anxiously awaiting the new scheme that will replace the MEIS, a popular incentive scheme. The MEIS was challenged at the World Trade Organisation by the US on the ground that it was an export subsidy, and a dispute panel ruled that India should revoke it. “As the RoDTEP scheme is based on actual taxes paid on inputs by exporters, it is being hoped that it will pass muster with the WTO,” the official said.

A three-member RoDTEP Committee, under former home and commerce secretary GK Pillai, was constituted in July 2020 to work out the modalities for calculation of taxes at the Central, State and local levels, borne on the exported product. This will include prior-stage cumulative indirect taxes on goods and services used in the production and distribution of exported products.

Exporters have expressed concern from time to time that the RoDTEP scheme may not be as beneficial for them as the MEIS but Finance Minister Nirmala Sitharaman assured earlier this year that the new scheme will adequately compensate and incentivise exporters, even more than all the existing schemes put together.

When the NITI Aayog, in August this year, proposed an annual outlay of ₹10,000 crore for the RoDTEP scheme, exporters expressed concern that the coverage may not be adequate as an earlier estimate was to the tune of ₹50,000 crore. Now, with the Centre looking at a higher outlay for the scheme, exporters definitely stand to benefit, the official said.

**Chemicals and Petrochemicals**

**Cost of hydrogen from renewables could fall more than 50% by 2030: TERI**

*Chemical Weekly | 29 December 2020*

The demand for hydrogen in India can grow five-fold by 2050. Further, by 2030, the costs of ‘green’ hydrogen from renewables will fall more than 50% and start to compete with hydrogen from fossil fuels. These were the findings of a report launched by The Energy and Resources Institute (TERI) in a digital event on December 16 at the hands of Dr. Rajiv Kumar, Vice Chairman, Niti Aayog.

The report, titled ‘The Potential Role of Hydrogen in India’, was created under TERI’s Energy Transitions Commission (ETC) India programme.

The report says that hydrogen needs to be targeted in sectors where direct electrification is not possible. These are heavy-duty, long-distance transport sectors, some industry sectors, and long-term seasonal storage in the power sector.

In transport, battery electric vehicles (BEVs) will become competitive across all segments, except for very long-distance, heavy-duty transport, which could be fuelled by hydrogen.

In industry, hydrogen can start to compete with fossil fuels in certain applications by 2030. For example, ammonia produced from ‘green’ hydrogen will be competitive with the current incumbent technology of ammonia produced from fossil fuel-based hydrogen.

In the power sector, hydrogen could provide an important source of seasonal storage for variable renewables like solar and wind energy. Large amounts of seasonal storage will become necessary only when the share of wind and solar in total generation reaches very high levels (60-80%).

Further, ‘green’ hydrogen production could require around 1000 TWh of renewables-based electricity by 2050, placing further pressure on power system decarbonisation.

**IPP, BCMC commission SR Chemical’s chlor-alkali plant complex**

*Indian Chemical News | 22 December 2020*

International Process Plants and Equipment Corp. (IPP) and Bluestar (Beijing) Chemical Machinery Co. (BCMC--a unit of ChemChina) have completed commissioning of SR Chemical Groups brand new chlor-alkali production complex yielding 30,000 tons/yr of 32% caustic soda.

PP and BCMC have been delighted to serve as the plant supplier for the Chlor-Alkali plant. This challenging project in a remote rural area of Northern Bangladesh was only able to be accomplished through a close collaboration of BCMC, SR Chemical, and IPP. The COVID-19 pandemic delayed the final installation and testing work due to travel restrictions and health precautions, but BCMC and SR Chemicals talented project teams managed to revise their work plans to accommodate for the changing circumstances without stopping the projects progress,” said Ross Gale, Vice President of International Process...
Plants.

“We are very pleased that despite the challenges in implementing a remote greenfield project during COVID-19 with a critical international team, the largest industrial plant in the country\'s northern region has been commissioned in 2020. Our plant is critical to Bangladesh’s growth as a major industrial player and a growing exporter of chemical products.” Asif Rabbani, MD, SR Chemical, said and that the Bogura plant project as a foundation for our future growth across the chemicals sector.

“As the Export Management Services provider for the project, we at AMEX Export Import would like to thank SR Chemical, IPP and BCMC for their terrific collaboration and to congratulate them on successful completion of this important project in the face of challenging circumstances. We remain committed to continued collaboration and look forward to working with the project team on making this production facility a continuing success, both in Bangladesh and internationally,” said Alexander Gordin, Director of AMEX Export Import.

The plant is expected to generate over 1,000 technical jobs to the rural Sherpur, Bogura community.

Digital integration & automation high on cards for Indian chemical industry

Indian Chemical News | 22 December 2020

The Indian chemical industry is all set to undergo a massive revamp as far as adoption of digital integration and automation is concerned as per exclusive details shared by industry stalwarts during “Achieving Sustainability Via Digital Transformation” webinar organised by Indian Chemical News.

Revealing the company\’s plans for the year 2021, Samir Dhaga, President and CIO, PI Industries Limited said, “We are looking at the launch of a new initiative called Empower, an integrated platform for agro-chemical sales and distribution business. It kind of deals with activities related to market development from retailers to customers. We are also looking at fine tuning inventory management. It is a 3 year-long transformation project and we are already in the second year.”

Calling it a long journey ahead, Ravi Shankar Jalan, Managing Director, GHCL, revealed that his company’s first priority will be to adopt automation.

“Plant automation remains high on our agenda and some part of it will get completed during 2021. However, it will take 2-3 years for the completion of the entire plan. We also have an aggressive plan of making plants IoT-based and in the longer run, we are looking at ensuring that operations could be run remotely,” added Jalan.

Rallis India Limited is planning a series of automation and customer-centric initiatives during 2021. Naveen Sodhiya, Head - IT & Digital, Rallis India commented, “We really want to make sure that our customers are well served with technology solutions therefore, the farmer-centric initiatives remain a top priority. We are also looking inward in terms of overall plant automation, including smart factory set up and complete automation of brownfield factories with new edge technology solutions.”

The security and optimization remain high on the cards of Deepak Fertilisers And Petrochemicals Corporation Limited during the upcoming year. Deepak Keni, EVP - Special Projects & Enablers explained, “We are trying to implement various technologies in the plants to ensure safety and security. This includes geo-fencing to prevent people from entering hazardous areas as well as drone technology.”

Talking from the integrated supply chain side, Keni said his company is also keen to reduce its footprint from fleet network optimization.

“We are looking at ensuring that our total distribution cost is optimized besides also the fuel cost which is required to supply our end products to customers. We aim to use smart technologies and network and warehouse optimization to achieve an end to end integrated supply chain management,” added Keni.

“Integration of various systems working in silos remains high on our agenda in the next year,” mentioned Ritwik Rath, General Manager - IS Strategy, HPCL.

“We want to have an integrated view of various systems. Integrating them to give us a common insight is something we would like to focus on. We would like to integrate all aspects of supply chain management,” commented Rath.

Talking about the company’s plan to take the automation to the next level, Rath said, “While we have well-automated refineries, we want to take them to the level of refineries 4.0. We have terminals among whom we have converted a few into smart terminals. Processes and footprints are all connected which also takes us to delivery points such as retail outfits and other customer touchpoints. So, we want to leverage various solutions that are available such as IoT and robotics for automation. It will help us in the connectivity of all the systems.”

The key to the future lies with cloud service automation, outlined V Srinivas, President - IT, The Sanmar Group.

V Srinivas said, “During COVID-19, the need for business continuity has become criteria for any technology. Therefore, the adoption of the cloud has become a key today. Cloud has ensured that there is business continuity and also that enterprise has access to compatibility. For example,
we have seen how AI/ML and cloud have standardized and matured in the process."

“There is a challenge of industries working in silos and lack of interoperability and infrastructure. In such a scenario, no doubt the future lies with automation,” Srinivas concluded.

**GPCB to scan Sarigam GIDC ground for more toxic waste**

*The Times of India | 21 December 2020*

A day after Gujarat Pollution Control Board (GPCB) sleuths unearthed three drums filled with hazardous chemical waste that a chemical manufacturing firm had clandestinely buried in its factory premises, officials are now planning to use ground scanning technology to detect more such cases in Sarigam GIDC.

“The area is huge and we suspect more chemicals to have been buried into the land. This technology will help in scanning the ground easily rather than digging the entire area,” said a GPCB official.

Earlier on Saturday, GPCB officials raided Survival Technologies Pvt Ltd in Sarigam GIDC in Valsad district and found the three drums in the ground. “We will expose this hazardous modus operandi of dumping chemical waste in the ground and polluting ground water as well as the environment. Action will be taken against the company as per the prescribed law,” said an official.

For now, the environment watchdog is trying to assess the volume of chemical waste that has been buried underground as well as scanning for more in the trench area around the factory to trace any pipeline that may be dumping chemical waste somewhere else, the official added.

Sources said that the three drums appear old and seems to have been buried for quite some years now.

**Global chemical industry outlook stable: Moody’s**

*Indian Chemical News | 16 December 2020*

Moody’s expects business conditions will improve in 2021 after a short period of weakness. A resurgence of coronavirus cases in certain regions and evolving social restrictions will reduce global demand for chemicals in the first quarter of 2021. A return to growth will follow once the public health situation is under control and restrictions are eased – the timing of which remains uncertain. We expect chemical demand in Asia, where governments contained the virus more quickly, will hold up better than EMEA and North America.

According to Moody’s Investor Service, China remains the exception with its fast demand recovery in 2020 and continued growth expected in 2021. While Chinese exports have not returned to pre-pandemic levels, increases in government spending and consumer demand have boosted demand for many chemicals to levels approaching, and in some cases above, pre-pandemic levels.

Elsewhere in Asia, the recovery in demand for chemicals has been mixed with some countries such as India still suffering from high rates of coronavirus infection, despite a decline from their peak rate in October. We expect chemical demand in these countries to grow more gradually, but still faster than in North America or Europe.

On the positive impact of coronavirus on some chemical end markets, Moody’s says: “Applications for chemicals and polymers in packaging, personal protective equipment (PPE), cleaners/sanitisation and certain consumer end markets such as architectural coatings experienced significant growth in 2020, which we expect will continue in 2021. We expect North American polyethylene margins to decline in 2021 after a strong expansion in the second half of 2020 due to packaging demand and unplanned outages, mostly due to hurricanes. We expect companies to post strong fourth-quarter profits followed by a much weaker first half of 2021 as full production in North America and new capacity globally weigh on margins,” the report reads.

According to the report, consumer non-durable end markets such as nutrition, pharma, home and personal care and food and beverage remain resilient, while construction has recovered faster than expected. “The performance of a number of specialty chemical companies has been less affected during the pandemic as consumer demand remained stable or increased, offsetting weakness in their industrial segments. Companies heavily weighted to the construction markets performed well in the second half of 2020 and we expect this to continue in 2021,” it says.

Moody’s says that the environmental and social risks for the industry are rising. “The impact over the next 12-18 months is focused mainly on corporate decision-making for major capital investments and M&A. Over a longer horizon, we expect that ESG-related factors will undercut demand growth for certain chemical products, especially single-use plastics. Increasing regulation in developed countries, commitments by global consumer goods companies and greater societal pressure to move toward carbon neutrality and use of recycled plastics, will increase spending on research or pollution control activities, while reducing demand over the next 10 years in developed countries,” the report states.

On change in outlook, Moody’s says the outlook could move to positive if countries are able to reduce coronavirus infection rates and fully reopen their economies faster than expected.
“The inoculation of a majority of the population in most large countries with an effective vaccine would greatly increase the likelihood that global chemical industry profitability would increase by more than 5% on an annual basis. We could change the outlook to negative if coronavirus infection rates remain high and there are delays in developing and distributing an effective vaccine, causing the largest countries to restrict economic activity to control the virus,” the report opines.

Industry outlooks reflect Moody’s view of fundamental business conditions for an industry over the next 12-18 months. “Since outlooks represent our forward-looking view on business conditions that factor into our ratings, a negative (positive) outlook suggests that negative (positive) rating actions are more likely on average. However, the industry outlook does not represent a sum of upgrades, downgrades or ratings under review or an average of the rating outlooks of issuers in the industry, but rather our assessment of the main direction of business fundamentals within the overall industry,” it says.

**Gujarat dyestuff maker see big loss in rising anti-dumping duty by Government**

*FE Bureau. Ahmedabad | December 10*

The Central Government’s decision to increase anti-dumping duty on basic raw material of dye-stuff may translate into huge loss-stuff may translate into huge loss of export business for Gujarat based dyestuff manufacturers.

Recently, the Indian government has imposed provisional safeguards duty on imports of Phthalic Anhydride from Korea. As a result of it, price of this basic raw material for dyestuff makers have gone up from Rs. 50 per kg to Rs. 100 per kg.

Raising the issue of Gujarat Dyestuff Manufacturer Association (GDMA) president Ramesh Patel has sent a letter to Chairman of Competition Commission of India to take necessary measure in the larger interest of the Dye Intermediates and Dyestuff manufacturers of India.

“If the government would not take the issue seriously, the Gujarat based dyestuff industry would have Rs. 15,000 Crore loss of export business in coming days. Due to price rise in raw material, it would be difficult for the Indian manufacturers to compete for Chinese counter-parts in the international markets.” said Yogesh Parikh, immediate past President of GDMA.

**How Can The Chemical Industry Help The EU Turn The Circular Economy Into A Viable Economic Growth Strategy?**

*Indian Chemical News | 09 December 2020*

The circular economy makes economic, European and environmental sense, especially for the chemical industry, which lies at the heart of the solutions we will need, explained Martin Brudermüller, Cefic President, during POLITICO’s Sustainable Future Summit.

During the summit, Martin echoed that the circular economy is a necessity for Europe to meet with the climate targets, but beyond being an obligation moving towards a more circular future it also provides great opportunities for the chemical sector; Circular solutions, like chemical recycling, will have an overall positive impact on the environment over their full life cycle.

“We have to think – Innovation – We all want to make the circular economy a reality and for that we need to work together” to bring innovative technologies like chemical recycling to scale, Brudermüller stated. The need for fostering innovation on a European level was also highlighted by MEP Jan Huitema, who pointed out that a lot of research is done, but “now it’s time to scale up.”

“If the EU is serious about the circular economy it can’t export its waste”, Martin said highlighting the potential in a common EU waste market. He stressed that plastic waste is a serious issue and landfilling makes little sense because the value of the waste is not used. Commissioner Sinkevičius confirmed the Circular Economy Action Plan also looks into how waste can be kept in the loop in Europe and doesn’t become “an exported opportunity.”

Cefic’s President highlighted the collective responsibility of creating a system that allows the circular economy to be developed: “We cannot just launch this to the individual citizens because the system doesn’t allow it, we need to come up with innovative product design – and this is what the chemical industry can drive”, ensuring our products are ‘Safe and Sustainable by Design’ as outlined in the Chemicals Strategy for Sustainability.

**49 chemical products brought under 8-digit HSN classification**

*Business Line | 02 December 2020*

The Central Board of Indirect Taxes and Customs (CBIC) has mandated eight-digit HSN classification for 49 chemical-based products for mention at the time of issuing GST invoices.

This move is expected to avoid classification disputes and reduce tax leakages, say tax experts. Industry will now have to make changes in its Enterprise Resource Planning (ERP) platforms to move from current two/four-digit level, they added. HSN — the Harmonised Commodity Description and Coding System — is a multipur-
pose international product nomenclature developed by the World Customs Organisation.

Some of the products that are part of the 49 chemicals list include cyanogen chloride; hydrogen cyanide; phosphorous trichloride; trimethyl phosphate; sulfur dichloride and triethanolamine.

Pratik Jain, Tax Partner, PwC India told BusinessLine that the government may want to monitor the data to check tax leakages either by wrong classification or other means, based on specific intelligence.

Abhishek Jain, Tax Partner, EY said: “The CBIC has mandated eight-digit HSN classification for 49 chemical based products, to be mentioned at the time of issuing GST invoice, which was currently placed at two/four digits depending upon turnover. Pursuant to this notification, the industry players dealing in these goods will have to undertake HSN classification at eight-digit level for their products along with requisite ERP changes.”

**AMAI Member News**

**Tata Chemicals recognised amongst India’s top 25 Most Innovative Companies**

*Chemical Weekly | 22 December 2020*

Tata Chemicals Ltd. (TCL) has been ranked amongst the top 25 most innovative Indian companies in 2020 by the Confederation of Indian Industry (CII). One of the most coveted innovation awards in the country, CII, felicitated TCL with the ‘CII Industrial Innovation Awards 2020’, to acknowledge Tata Chemicals’ efforts in the field of new product innovation. The award ceremony was organised virtually by the apex industry body, which saw participation from large, medium and small companies for their revolutionary world class innovations in the past year.

CII launched the ‘Industrial Innovation Awards’ in the year 2014 to encourage industry to adopt a structured innovation framework in their operations. This year the entries were evaluated on the basis of how have companies reacted to the on-going pandemic and launched innovative products that will aid the consumer as well as the industry.

Tata Chemicals innovation and technological advancement in the field of Highly Dispersible Silica (HDS), developed at its Innovation Centre for use in high-performance and fuel-efficient tyres was recognised by CII.

“Winning this award for the second time is testimony to our commitment to be a leading sustainable, innovative, science-led chemistry company,” Mr. R. Mukundan, Managing Director & Chief Executive Officer, TCL said. Tata Chemicals has three state-of-the-art Innovation Centres in India – Tata Chemicals Innovation Centre (IC) in Pune, the Rallis Innovation Chemistry Hub (RICH), and Agri-Biotech R&D Facility (both in Bengaluru).
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MINISTRY OF COMMERCE AND INDUSTRY
(Department of Commerce)

(DIRECTORATE GENERAL OF TRADE REMEDIES)

INITIATION NOTIFICATION

New Delhi, the 17th December 2020

Case No. AD (OI)-30/2020

Subject: Initiation of anti-dumping investigation concerning imports of Caustic Soda originating in or exported from Japan, Iran, Qatar and Oman.

F. No. 6/36/2020-DGTR.—M/s Alkali Manufacturers Association of India (AMAI) (hereinafter also referred to as the “Applicant”) has filed an application (hereinafter also referred to as the “Petition” or “Application”) before the Designated Authority (hereinafter also referred to as the “Authority”), on behalf of the domestic producers namely, DCW Limited, Grasim Industries Limited, Gujarat Alkalis and Chemicals Limited, SIEL Chemical Complex in accordance with the Customs Tariff Act, 1975 as amended from time to time (hereinafter referred to as the “Act”) and the Customs Tariff (Identification, Assessment and Collection of Anti-dumping Duty on Dumped Articles and for Determination of Injury) Rules, 1995, as amended from time to time (hereinafter referred to as the “Rules”), for imposition of Anti-Dumping duty on imports of Caustic Soda originating in or exported from Japan, Iran, Oman and Qatar (hereinafter also referred to as the “subject countries”). The domestic producers namely, DCW Limited, Grasim Industries Limited, Gujarat Alkalis and Chemicals Limited, SIEL Chemical Complex (hereinafter referred to as “Participating Companies”) have provided the prescribed information in the Application.

2. The Applicant has alleged that material injury to the Domestic industry is being caused due to dumped imports from Japan, Iran, Qatar and Oman, and has requested for imposition of anti-dumping duty on the imports of Caustic Soda from Japan, Iran, Qatar and Oman.

PRODUCT UNDER CONSIDERATION (PUC)

3. The product under consideration in the petition is Caustic Soda or Sodium Hydroxide, in all forms. Caustic Soda is chemically known as NaOH or Sodium Hydroxide. It is a soapy, strongly alkaline colorless liquid widely used in diverse industrial sectors, either as a raw material or as an auxiliary chemical. Caustic Soda is produced in two forms, lye and solids. Solids can be in the form of flakes, prills, granules or any other form.
4. Caustic Soda is produced in two forms, i.e. lye and solids by three technology processes, i.e. mercury cell process, diaphragm process and membrane process. Liquid form can be converted into solid and the solid form can be reconverted in liquid with ease and without any change in the chemical properties of the product. The solid form has ease of storage and transportation whereas the liquid form has easy solubility. For end use both the forms are substitutable and interchangeable.

5. Caustic Soda is classified under Chapter 28 of the Customs Tariff Act, 1975 under Customs head 2815.11 and 2815.12. As per ITC 8-digit classification, the product is classified under the Custom Heading 28151101, 28151102 and 28151200. The customs classification is indicative only and is not binding on the scope of the product under consideration

LIKE ARTICLE

6. Rule 2(d) with regard to “like article” provides as under:

"like article" means an article which is identical or alike in all respects to the article under investigation for being dumped in India or in the absence of such article, another article which although not alike in all respects, has characteristics closely resembling those of the articles under investigation.

7. The Applicant has claimed that there is no known difference in the subject goods produced by the Indian industry and product under consideration exported from subject countries. Subject goods produced by the domestic producers and imported from the subject countries are comparable in terms of physical & technical characteristics, manufacturing process & technology, functions & uses, product specifications, pricing, distribution & marketing and tariff classification of the goods. The subject goods are technically and commercially substitutable with imported subject goods. The consumers are using the subject goods interchangeably. Therefore, subject goods produced by the domestic producers are being treated as “like article” to that being imported from the subject countries for the purpose of the present review investigation.

DOMESTIC INDUSTRY

8. The application has been filed by Alkali Manufacturers Association of India (AMAI). DCW Limited, Gujarat Alkalis and Chemicals Limited, SEIL Chemical Complex and Grasim Industries Limited (also referred to as “participating companies”) have provided injury information. As per the available information, the “participating companies” have neither imported the subject goods from the subject countries nor are they related to any other producer/exporter of subject goods in the subject countries or any importer in India. The production of the participating companies constitutes a major proportion in Indian production, and these participating companies have provided relevant injury information.


10. It is noted that the participating companies, along with the supporters, account for more than 50% of the total domestic production. In view of the above and after due examination, the Authority notes that the participating companies constitute eligible domestic industry in terms of Rule 2 (b), and the application satisfies the criteria of standing in terms of Rule 5(3), of the Rules supra.
BASIS OF ALLEGED DUMPING

Normal value

Normal value for Japan

11. The Applicant has claimed that there was no evidence of domestic selling price in the subject country, so, the Applicant has adopted the price published by the market research agency, IHS Markit, in its periodic publication Global Chlor-Alkali Report, for imports from Japan. Accordingly, the Applicant has considered such prices for determining the normal value for the subject country.

Normal value for Iran

12. The Applicant has claimed that it did not have access to any evidence of domestic selling price in Iran. Thus, the Applicant has adopted price of exports to an appropriate third country, i.e., Georgia, derived through Trade Map data for the determination of normal value, considering that volume of exports to Georgia represents highest volume of exports from Iran to Georgia. Further, the Applicant has adjusted for ocean freight, marine insurance, port expenses and inland freight to determine ex-factory normal value. There is sufficient prima facie evidence of normal value claimed for Iran.

Normal value for Oman

13. The Applicant has claimed that it did not have access to any evidence of domestic selling price in Oman. Thus, the Applicant has adopted price of exports to an appropriate third country, UAE, derived through Trade Map data for the determination of normal value, considering that volume of exports to UAE represents highest volume of exports from Oman to UAE. Further, the Applicant has adjusted for ocean freight, marine insurance, port expenses and inland freight to determine ex-factory normal value. There is sufficient prima facie evidence of normal value claimed for Oman.

Normal value for Qatar

14. The Applicant has claimed that it did not have access to any evidence of domestic selling price in Qatar. Thus, the Applicant has adopted price of exports to an appropriate third country, Italy, derived through Trade Map data for the determination of normal value, considering that volume of exports to Italy represents highest volume of exports from Qatar to Italy. Further, the Applicant has adjusted for ocean freight, marine insurance, port expenses and inland freight to determine ex-factory normal value. There is sufficient prima facie evidence of normal value claimed for Qatar.

Export Price

15. The export price for the subject countries has been computed based on Directorate General of Commercial Intelligence and Statistics (DGCI&S) transaction-wise import data. Adjustments have been made for ocean freight, marine insurance, port expenses, bank charges, commission, credit cost and handling charges. There is sufficient evidence of export prices claimed for subject countries.

a. Dumping margin

16. The normal value and the export price have been compared at ex-factory level, which prima facie shows dumping margin is above the de-minimis level and is significant in respect of the product under consideration from Japan, Iran, Qatar and Oman. There is sufficient prima facie evidence that the product under consideration from the subject countries is being dumped into the Indian market by the exporters from Japan, Iran, Qatar and Oman.

INJURY AND CAUSAL LINK

17. Information furnished by the Applicant has been considered for assessment of injury to the domestic industry. The Applicant has furnished prima facie evidence regarding the injury having taken place as a result of the alleged dumping, resulting in price undercutting, and price suppressing and depressing effect on the domestic industry. The Applicant has claimed that their performance has been adversely impacted in respect of production, sales, inventories and decline in profits, return on capital employed, and cash profits. There is sufficient prima facie evidence of material injury being caused to the domestic industry by dumped imports from subject countries to justify initiation of anti-dumping investigation.
INITIATION OF ANTI-DUMPING INVESTIGATION

18. On the basis of the duly substantiated written application by or on behalf of the domestic industry, and having satisfied itself, on the basis of the prima facie evidence submitted by the domestic industry, substantiating dumping of the product under consideration originating in or exported from the subject countries, injury to the domestic industry and causal link between such alleged dumping and injury, and in accordance with Section 9A of the Act read with Rule 5 of the Rules, the Authority, hereby, initiates an investigation to determine the existence, degree and effect of any alleged dumping in respect of the product under consideration originating in or exported from the subject countries and to recommend the amount of anti-dumping duty, which if levied, would be adequate to remove the injury to the domestic industry.

SUBJECT COUNTRIES

19. The subject countries in the present investigation are Japan, Iran, Qatar and Oman.

PERIOD OF INVESTIGATION

20. The Applicant has proposed period of investigation (POI) as October 2019 to June 2020 (9 months), with the injury investigation period as 2016-17, 2017-18, April 2018 – September 2019 and the period of investigation. The Authority however considers it appropriate, having regard to Rule 2(da), and explanation to rule 22, to fix the period 1st October 2019 to 30th September 2020, as period of investigation (POI) and the period 1st April 2017 – 31st March 2018, 1st April 2018 – 31st March 2019, 1st April 2019 – 31st March 2020, and the period of investigation (POI) i.e. 1st October 2019 to 30th September, 2020 as the injury investigation period.

PROCEDURE

21. Principles as given in Rule 6 of the Rules will be followed for the present investigation.

SUBMISSION OF INFORMATION

22. In view of the special circumstances arising out of COVID-19 pandemic, all communication should be sent to the Designated Authority via email at email address adg13-dgtr@gov.in, adv12-dgtr@gov.in, dir16-dgtr@gov.in and dd13-dgtr@gov.in. It should be ensured that the narrative part of the submission is in searchable PDF/ MS Word format and data files are in MS Excel format.

23. The known producers/exporters in the subject countries, Government of the subject countries through their Embassies in India, the importers and users in India known to be concerned with the subject goods and the domestic industry are being informed separately to enable them to file all the relevant information in the form and manner prescribed within the time-limit set out below.

24. Any other interested party may also make its submissions relevant to the investigation in the form and manner prescribed within the time-limit set out below.

25. Any party making any confidential submission before the Authority is required to make a non-confidential version of the same available to the other parties.

26. Interested parties are further advised to keep a regular watch on the official website of the Designated Authority http://www.dgtr.gov.in/ for any updated information with respect to this investigation.

TIME LIMIT

27. Any information relating to the present investigation should be sent to the Designated Authority via email at the email addresses adg13-dgtr@gov.in, adv12-dgtr@gov.in, dir16-dgtr@gov.in and dd13-dgtr@gov.in within 30 days from the date of the receipt of the notice as per the Rule 6(4) of the Rules. If no information is received within the prescribed time-limit or the information received is incomplete, the Authority may record its findings on the basis of the facts available on record in accordance with the Rules.

28. All the interested parties are hereby advised to intimate their interest (including the nature of interest) in the instant matter and file their questionnaire responses within the above time limit.
SUBMISSION OF INFORMATION ON CONFIDENTIAL BASIS

29. Any party making any confidential submission or providing information on confidential basis before the Authority, is required to simultaneously submit a non-confidential version of the same in terms of Rule 7(2) of the Rules. Failure to adhere to the above may lead to rejection of the response/submissions.

30. The parties making any submission (including Appendices/Annexures attached thereto), before the Authority including questionnaire response, are required to file Confidential and Non-Confidential versions separately.

31. The “confidential” or “non-confidential” submissions must be clearly marked as “confidential” or “non-confidential” at the top of each page. Any submission made without such marking shall be treated as non-confidential by the Authority, and the Authority shall be at liberty to allow the other interested parties to inspect such submissions.

32. The confidential version shall contain all information which is by nature confidential and/or other information which the supplier of such information claims as confidential. For information which is claimed to be confidential by nature or the information on which confidentiality is claimed because of other reasons, the supplier of the information is required to provide a good cause statement along with the supplied information as to why such information cannot be disclosed.

33. The non-confidential version is required to be a replica of the confidential version with the confidential information preferably indexed or blanked out (in case indexation is not feasible) and summarized depending upon the information on which confidentiality is claimed. The non-confidential summary must be in sufficient detail to permit a reasonable understanding of the substance of the information furnished on confidential basis. However, in exceptional circumstances, the party submitting the confidential information may indicate that such information is not susceptible to summary, and a statement of reasons why summarization is not possible must be provided to the satisfaction of the Authority.

34. The Authority may accept or reject the request for confidentiality on examination of the nature of the information submitted. If the Authority is satisfied that the request for confidentiality is not warranted or if the supplier of the information is either unwilling to make the information public or to authorize its disclosure in generalized or summary form, it may disregard such information.

35. Any submission made without a meaningful non-confidential version thereof or without good cause statement on the confidentiality claim shall not be taken on record by the Authority.

36. The Authority on being satisfied and accepting the need for confidentiality of the information provided, shall not disclose it to any party without specific authorization of the party providing such information.

INSPECTION OF PUBLIC FILE

37. In terms of rule 6(7) of the Rules, any interested party may inspect the public file containing non-confidential version of the evidences submitted by other interested parties. The modality of maintaining public file in electronic mode is being worked out.

NON-COOPERATION

38. In case any interested party refuses access to and otherwise does not provide necessary information within a reasonable period, or significantly impedes the investigation, the Authority may declare such interested party as non-cooperative and record its findings on the basis of the facts available to it and make such recommendations to the Central Government as deemed fit.

B. B. SWAIN, Spl. Secy. & Designated Authority
1. Anti-Subsidy Investigation concerning imports of Soda Ash originating in or exported from Turkey - List of interested parties and sharing of NCV - 01/12/2020

2. Anti-Dumping Original Investigation concerning imports of “Self-Adhesive Polyvinyl Chloride Film” originating in or exported from China PR –
   (a) Updated list of Interested parties and sharing of NCVs 03/12/2020
   (b) Oral Hearing 04/12/2020

3. Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme gets implemented from 01.01.2021 – published on 31 DEC 2020

4. Draft Model Standing Order for Manufacturing Sector & Mining Sector – published on 31 DEC 2020
   https://labour.gov.in/sites/default/files/224088_compressed.pdf
### 1 Alkali Imports (MT)

<table>
<thead>
<tr>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Caustic Soda</td>
<td>29,930</td>
<td>27,490</td>
<td>8.9%</td>
<td>23,882</td>
<td>25.3%</td>
<td>204,379</td>
<td>242,311</td>
<td>-15.7%</td>
</tr>
<tr>
<td>Soda Ash</td>
<td>63,956</td>
<td>80,331</td>
<td>-20.4%</td>
<td>42,214</td>
<td>51.5%</td>
<td>435,659</td>
<td>687,768</td>
<td>-36.7%</td>
</tr>
</tbody>
</table>

Average Price in Nov 2020: Caustic Soda - 291 USD/MT (Lye) & 374 USD/MT (Flakes); Soda Ash - 202 USD/MT

### 2 Foreign Trade - Merchandise (US$ billion)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Imports</td>
<td>33.4</td>
<td>38.5</td>
<td>-13.3%</td>
<td>215.7</td>
<td>324.6</td>
<td>-33.6%</td>
<td>467.2</td>
</tr>
<tr>
<td>Exports</td>
<td>23.5</td>
<td>25.8</td>
<td>-8.7%</td>
<td>173.7</td>
<td>211.2</td>
<td>-17.8%</td>
<td>314.3</td>
</tr>
<tr>
<td>Surplus/Deficit</td>
<td>-9.9</td>
<td>-12.8</td>
<td>-42.0%</td>
<td>-113.4</td>
<td>-152.9</td>
<td>-36.7%</td>
<td></td>
</tr>
</tbody>
</table>

### 3 Exchange Rate (Rs./USD)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Oct 2020</th>
<th>Sep 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>74.22</td>
<td>73.46</td>
<td>73.48</td>
<td></td>
</tr>
</tbody>
</table>

### 4 Index of Industrial Production (Base: 2011-12=100)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Nov 2019</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>126.3</td>
<td>128.8</td>
<td>-1.9%</td>
<td></td>
</tr>
</tbody>
</table>

### 5 Index of Core Industries (Base: 2011-12=100)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Nov 2019</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>125.9</td>
<td>129.2</td>
<td>-2.6%</td>
<td></td>
</tr>
</tbody>
</table>

### 6 Index of Industrial Production - Broad Sectors (Base: 2011-12=100)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Nov 2019</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>104.5</td>
<td>112.7</td>
<td>-7.3%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>128.4</td>
<td>130.6</td>
<td>-1.7%</td>
</tr>
<tr>
<td>Electricity</td>
<td>144.8</td>
<td>139.9</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

### 7 Index of Industrial Production - Manufacturing Sub-groups (Base: 2011-12=100)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Nov 2019</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical &amp; Chemical Products</td>
<td>120.4</td>
<td>120.2</td>
<td>0.2%</td>
</tr>
<tr>
<td>Textiles</td>
<td>108.0</td>
<td>119.7</td>
<td>-9.8%</td>
</tr>
<tr>
<td>Paper &amp; Paper Products</td>
<td>71.1</td>
<td>92.0</td>
<td>-22.7%</td>
</tr>
<tr>
<td>Basic Metals</td>
<td>162.5</td>
<td>160.5</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

### 8 Index of Industrial Production Country-wise Comparisons (Base: 2015=100)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Nov 2019</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>Russia</td>
<td>110.0</td>
<td>113.2</td>
<td>-2.8%</td>
</tr>
<tr>
<td>Brazil</td>
<td>99.6</td>
<td>95.8</td>
<td>4.0%</td>
</tr>
<tr>
<td>European Union (27)</td>
<td>104.3</td>
<td>104.7</td>
<td>-0.4%</td>
</tr>
<tr>
<td>USA</td>
<td>100.0</td>
<td>105.7</td>
<td>-5.4%</td>
</tr>
</tbody>
</table>

### 9 All India Inflation Rates (Base: 2012=100)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Nov 2019</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>119.9</td>
<td>118.8</td>
<td>0.9%</td>
<td></td>
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</table>

### 10 Consumer Price Inflation - Industrial Workers (Base: 2016=100)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Nov 2019</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>74.22</td>
<td>73.46</td>
<td>6.9%</td>
<td></td>
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</tbody>
</table>

### 11 Foreign Investment Inflows (US$ Million)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Oct 2020</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Foreign Direct Investment</td>
<td>5,746</td>
<td>4,562</td>
<td>26.0%</td>
</tr>
<tr>
<td>Net Portfolio Investment</td>
<td>9,427</td>
<td>2,943</td>
<td>220.3%</td>
</tr>
<tr>
<td>Total</td>
<td>15,173</td>
<td>7,505</td>
<td>102.2%</td>
</tr>
</tbody>
</table>

### 12 Foreign Investment Promotion Board (FIPB) Approvals (US$ Million)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Oct 2020</th>
<th>Sep 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>45</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### 13 Foreign Exchange Reserves (US$ billion)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Oct 2020</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>575</td>
<td>561</td>
<td>2.5%</td>
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</table>

### 14 Fiscal Deficit (Apr 2020-Nov 2020)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020 (as on 27 Nov 2020)</th>
<th>Oct 2020 (as on 30 Oct 2020)</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>135.1%</td>
<td>114.8%</td>
<td></td>
<td></td>
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</table>

### 15 Purchasing Managers Index (PMI)

<table>
<thead>
<tr>
<th></th>
<th>Nov 2020</th>
<th>Oct 2020</th>
<th>Sep 2020</th>
</tr>
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<tbody>
<tr>
<td>56.3</td>
<td>58.9</td>
<td>56.8</td>
<td></td>
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</table>

Data Source: GOI, OECD, IHS & AMAI Research

Index over 50 shows expansion, while below 50 means contraction.
Chlor-Alkali Manufacturers needs a paradigm shift from a conventional approach to newer digital approach for achieving desired business results.

**Operational Challenges for Chlor-Alkali Plants**

**Safety** - Dealing with poisonous gases at high pressure

**Productivity** - Process excursions will reduce membrane life

**Energy** - Caustic evaporators are largest steam consumers

**Reliability** - Large critical rotating equipment’s (unmonitored hydrogen and chlorine compressors, complicated maintenance on hermetically sealed pumps)

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  - High fouling rate for Heat Exchanger
  - Corrosion in pipes and vessels
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> R&D Facility in Sweden

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SWEDEN Chlor Alkali EPC Project
SAUDI ARABIA Anisole EPC Project
EGYPT Sulfuric Acid EPC Project
PARAGUAY Chlor Alkali EPC Project
INDIA Hydrogen Peroxide EPC Project
ABU DHABI Calcium Chloride EPC Project
TURKEY Sulfuric Acid EPC Project

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website: www.ama-india.org