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GCA Makes Final Investment Decision To Build New Texas Ammonia Plant

Texas City—Gulf

Coast Ammonia LLC (GCA) has reached a final investment decision to build a new world-scale anhydrous ammonia facility within an industrial chemical site in Texas City, Texas (PCN, 25 May 2015, p 2).

The plant, which will have a production capacity of about 1.3-million t/y of ammonia, will be the "world's largest" single-train ammonia synthesis loop, GCA noted. Hydrogen and nitrogen will be purchased from Air Products as feedstock for the new facility (*see related story, page 2*).

In addition, GCA has secured long-term offtake contracts for the majority of its production capacity. Construction will begin early this year with commissioning planned in the first half of 2023.

GCA was formed by Agrifos Partners to develop the plant, which was originally expected to begin production in 2019. As of the closing of the project financing, GCA is wholly-owned by a joint venture of Starwood Energy Group Global and Mabanafit GmbH & Co.

"This is a major strategic step for Mabanafit to grow and diversify our portfolio and establish a footprint in chemical growth markets, leveraging our group's network of world-class business partners," said Mabanafit Chief Executive Tim Bullock.

"The joint venture between Starwood Energy and Mabanafit demonstrates Mabanafit's commitment to invest in North America and, more significantly, a milestone for Mabanafit's entry into the ammonia market backed by an equity-owned asset."

Pembina & PIC JV Awards EPC Contract For New PDH and PP Upgrading Unit

Calgary—

Canada Kuwait Petrochemical Corp. (CKPC), a joint venture of Pembina Pipeline Corp. and Petrochemical Industries Co. (PIC) of Kuwait, has awarded an engineering, procurement and construction contract (EPC) related to the propane dehydrogenation (PDH) facility within its planned PDH and polypropylene (PP) project in Canada (PCN, 4 Nov 2019, p 2).

The lump-sum contract was awarded to Heartland Canada Partners, a 50-50 partnership between Fluor Canada and Kiewit Construction Services.

CKPC's project, expected to cost around C\$4.5-billion, involves a complex that will process about 23,000 b/d of propane from Pembina's Redwater Fractionation Complex and other local facilities to produce over 550,000 t/y of PP, including random and impact copolymers.

Commercial service was initially anticipated to begin in mid-2023; however, CKPC now expects the facility to be placed into commercial service in the second half of 2023.

"This project is highly strategic for Pembina and our producer customers in the Western Canadian Sedimentary Basin," noted Mick Dilger, president and chief executive of Pembina. "It offers a new demand source for domestically produced propane and supports ongoing development of Canada's world-class hydrocarbon resources."

Borealis Agrees to Acquire Nova Chemicals' Ownership Interest in Novealis Holdings

Houston—

Borealis and Nova Chemicals have reached an agreement, in which Borealis will purchase Nova's 50% ownership stake in Novealis Holdings.

Formed in 2018, Novealis is an equally-owned joint venture between affiliates of Borealis and Nova. Novealis subsequently formed a 50-50 joint venture with an affiliate of Total SA to launch Bayport Polymers (Baystar) in Houston, Texas (PCN, 4 Mar 2019, p 1).

Subject to customary regulatory approvals and other conditions, the acquisition is expected to close in the first half of 2020.

In June 2018, Baystar broke ground on a 1-million-t/y ethane steam cracker in Port Arthur, Texas, which is expected to start up this year.

Baystar is also currently building a new 625,000-t/y Borstar polyethylene (PE) unit at its Pasadena, Texas, site, which will more than double the site's PE capacity to 1.1-million t/y. Start-up is scheduled in 2021.

The new cracker will process ethane to supply feedstock to the new PE unit, as well as the joint venture's existing 400,000-t/y Borstar PE plant.

Alpek Polyester Concludes Acquisition Of Lotte Chemical UK's PET Facility

Wilton—Alpek

Polyester has finalized the purchase of Lotte Chemical UK Ltd., owner and operator of a 350,000-t/y polyethylene terephthalate (PET) production plant in Wilton, UK (PCN, 9 Dec 2019, p 1).

Lotte Chemical UK will now operate under a new created legal entity named Alpek Polyester UK Ltd. It is the "first" PET production facility owned by Alpek Polyester outside of the Americas.

The acquisition expands Alpek Polyester's PET capacity to over 2.8-million tons across six countries and 15 facilities. Value of the transaction was not disclosed.

LyondellBasell to Provide Hostalen Process For Shandong Jinhai's New HDPE Plant

Beijing—

Shandong Jinhai Chemical Co. has selected LyondellBasell's Hostalen Advanced Cascade Process (ACP) technology for a new high-density polyethylene (HDPE) facility to be built in China.

The 400,000-t/y HDPE plant, which will be located in Heze City, Shandong Province, will use Avant Z501 and Avant Z509 catalysts to produce a full range of multimodal HDPE products. A schedule for the project was not given.

"Selecting LyondellBasell's Hostalen ACP technology for our project will enable us to produce on a reliable and economical basis high-quality, strong and long-lasting products such as PE pipes, film and many other applications enhancing peoples day to day live[s]," said Ding Shu Bing, vice president of Shandong Dongming Petrochemical Group.

Air Products Touts 'Largest-Ever' Investment For Hydrogen SMR, Nitrogen ASU in Texas; Will Supply GCA's World-Scale NH₃ Plant

Houston—

Air Products announced it will make its "largest-ever" investment of \$500-million to build, own and operate a new hydrogen steam methane reformer (SMR), a nitrogen air separation unit (ASU) and utilities units at Eastman Chemical's site in Texas City, Texas.

The approximately 175-million-cu ft/d SMR, the company's "largest ever," will include the addition of over 30 miles of hydrogen pipeline from Texas City to Baytown, Texas, to be connected to Air Products' existing Gulf Coast pipeline system. The pipeline segment of the project is planned to come on stream in the second half of 2021, with the remainder of the units expected to be in commercial operation in early 2023.

Once complete, the roughly 700-mile hydrogen pipeline system will span from Texas City through the Houston Ship Channel to New Orleans, La., and supply customers with over 1.7-billion cu ft/d of hydrogen from 24 production facilities.

At the same time, Air Products has won a long-term on-site business model supply agreement from Gulf Coast Ammonia (GCA) to supply hydrogen and nitrogen to GCA's new world-scale ammonia (NH₃) production plant, which will be built on the same site (*see related story, page 1*).

GCA's ammonia facility, which will have a production capacity of around 3,600 t/d, will use about 270-million cu ft/d of hydrogen from the SMR and Gulf Coast pipeline, and will also benefit from Air Products' supply of about 90-million cu ft/d of nitrogen.

In addition, Eastman said it entered into a strategic off-take agreement to purchase "cost-advantaged" ammonia from GCA's plant to produce its specialty products.

Iran's NPC Plans to Build New Plant To Produce PP from Natural Gas

*Tehran—*The National Petrochemical Co. (NPC) of Iran is planning to construct, for the "first" time, a 120,000-t/y polypropylene from natural gas facility, said NIPNA quoting Iranian President Hassan Rouhan.

The project would also include a methanol unit with 660,000 t/y of production capacity and a propylene via methanol plant with 120,000 t/y of production capacity. No other details were available.

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FG LA Obtains Permits Needed to Begin Construction on Its Sunshine Project

Baton Rouge—

FG LA LLC, part of Formosa Plastics Group, has received all environmental permits needed to start building its world-scale ethylene complex, known as "The Sunshine Project," in St. James Parish, La. (PCN, 30 Apr 2018, p 1).

The \$9.4-billion complex, which will be built in two phases, will include the production of ethylene, propylene, high-density polyethylene (HDPE), linear low-density PE, ethylene glycol (EG), polypropylene and a utility plant in the first phase.

In the second phase, the project will include a second ethylene cracker and utility plant, as well as the production of low-density PE, HDPE and EG.

The project is expected to create 1,200 new direct jobs and a peak construction workforce of more than 8,000 people. An expected completion date was not yet available.

Enterprise, Navigator Announce Opening Of Ethylene Export Terminal in Texas

Houston—

Enterprise Products Partners and Navigator Holdings have begun operations at their new 50-50 joint venture ethylene export terminal at Enterprise's Morgan's Point, Texas, facility, and have exported the first cargo of ethylene (PCN, 9 July 2018, p 1).

Located on the Houston Ship Channel, the terminal has two docks and the capacity to load around 2.2-billion lbs/yr of ethylene. A refrigerated storage tank for 66-million pounds of ethylene is also being built on-site and will increase the capability to load ethylene up to a rate of 2.2-million lbs/hr. Tank construction is scheduled to be completed in the fourth quarter of this year.

"Because of abundant natural gas liquids thanks to the shale revolution, the U.S. is now a global leader in ethylene production, with an unprecedented buildout of mostly ethane crackers along the Texas and Louisiana Gulf Coast, providing hundreds of thousands of jobs to local economies," noted A.J. "Jim" Teague, chief executive of Enterprise's general partner.

"Including a second wave of new petrochemical plants now being developed, production of ethylene is poised for continued growth and is expected to exceed 100-billion pounds per year by 2025."

IVL Completes Acquisition of Huntsman's Chem Intermediates, Surfactants Assets

Houston—

Indorama Ventures (IVL) announced it has finalized the purchase of Huntsman Corp.'s chemical intermediates businesses, which includes propylene oxide and methyl tertiary butyl ether, and its surfactants businesses in a transaction valued at approximately \$2-billion (PCN, 12-19 Aug 2019, p 1).

The acquired facilities have a combined production capacity of approximately 3-million t/y, located in Port Neches, Dayton and Chocolate Bayou, Texas; Ankleshwar, India, and Botany, Australia.

"This transformational transaction significantly reduces our capital-intensive upstream asset base, further bolsters our already strong balance sheet and allows us to further invest in and grow our downstream businesses," noted Peter Huntsman, chairman, president and chief executive of Huntsman.

"This transaction greatly expands our flexibility and opportunity for select strategic and accretive acquisitions, as well as for expansions in our core downstream global footprint, and for continued opportunistic repurchases of our shares. We remain disciplined and focused on the creation of long-term shareholder value."

People on the Move

Gulf Coast Ammonia LLC—*Ken Koye* was recently appointed president and chief executive of the company. He was previously senior advisor, Infrastructure & Logistics, at Mabanafat GmbH & Co. KG.

Bechtel Corp.—*Jeff Sipes* has assumed the newly created role of global manager of strategy and business development. He was most recently global manager of marketing and business development for the company's Oil, Gas & Chemicals business unit.

Ineos Styrolution Planning to Invest In World-Scale ABS Unit in Ningbo

Ningbo—Ineos Styrolution said it intends to build a 600,000-t/y world-scale acrylonitrile butadiene styrene (ABS) plant in Ningbo, China.

The new production site, on which construction is planned to begin this year, will be located adjacent to a polystyrene plant that Ineos acquired from Total last February (PCN, 25 Feb 2019, p 1). Completion is scheduled for 2023.

"China is the biggest ABS market in the world," said Steve Harrington, president of Asia-Pacific at Ineos Styrolution. "This new investment will give us a tremendous opportunity to provide our customers in the region with locally produced ABS grades," he added.

"Asia has been identified by us as a significant growth market," noted Ineos Styrolution Chief Executive Kevin McQuade, adding that the project shows the company's dedication to its Triple Shift Growth strategy.

USW Files Lawsuit Against U.S. EPA To Protect Chemical Disaster Rule

Washington—The United Steelworkers (USW) said it is suing the U.S. Environmental Protection Agency (EPA) over the federal government's decision to "gut" the Chemical Disaster Rule, which is intended to avoid chemical disasters and save lives.

The EPA has removed "crucial" provisions of the regulation that supported EPA's Risk Management Program regulations, including requirements that companies take commonsense actions to prevent foreseeable catastrophic incidents.

"The USW spent years advocating for the Chemical Disaster Rule," said USW International President Tom Conway. The lawsuit asks the U.S. Court of Appeals for the District of Columbia Circuit to implement the rule as the EPA originally wrote it, before the current administration took office.

The USW represents 850,000 workers in chemicals, rubber, metals, mining, pulp and paper, auto supply and the energy-producing industries, as well as a number of workers in public sector and service occupations.

Elix Joins Styrenics Circular Solutions To Increase Circularity of Styrenics

Brussels—Elix Polymers, a European manufacturer of acrylonitrile butadiene styrene resins and derivatives, has become the latest member of Styrenics Circular Solutions (SCS), a joint industry initiative to drive the shift to a more circular economy for styrenic polymers.

Agilyx, Ineos Styrolution and Trinseo last year announced plans for a "first-of-a-kind" commercial-scale polystyrene (PS) chemical recycling plant in Europe (PCN, 15 July 2019, p 3).

The project, initiated by SCS, will be capable of processing up to 50 t/d of post-consumer PS feedstock, using Agilyx's proprietary depolymerization technology. An expected completion date for the facility was not given.

Elix joins existing SCS members Ineos Styrolution, Trinseo, Total, Versalis, Repsol and Coexpan.

Asian Company Awards Contract to KBR To Provide New K-PRO PDH Technology

Houston—KBR said it has received the first commercial contract for its new K-PRO propane dehydrogenation (PDH) technology from an undisclosed customer in Asia (PCN, 24-31 Dec 2018, p 2).

The technology will be utilized in a new 600,000-t/y PDH plant, which is expected to start up in 2023. Value of the contract and further details of the project were not available.

K-PRO, which was introduced last January, "provides lower capital and operating costs and environmental benefits for customers," KBR noted. "The technology delivers proven reliability that allows facilities to operate for longer periods of time between shutdowns compared to existing commercially available technologies."

The new technology employs the company's Orthoflow fluidized catalytic cracking reactor technology.

IRSG Holding World Rubber Summit From 5-6 May 2020 in Cote d'Ivoire

Singapore—The International Rubber Study Group (IRSG) has scheduled its World Rubber Summit 2020 on 5-6 May 2020 at the Sofitel Abidjan Hotel Ivoire in Cote d'Ivoire, West Africa.

The summit is based on the theme "*Unlocking the Potential of the Rubber Economy: Pathways to Growth in the Next Decade*."

For more information, visit IRSG's website at www.rubberstudy.com.

BioLogiQ, Licella Partner to Commercialize Licella's Cat-HTR Technology in Australia

Sydney—BioLogiQ, a bioplastic resin manufacturing company, and global technology firm Licella Holdings have partnered to accelerate the commercialization of Licella's Cat-HTR (Catalytic Hydrothermal Reactor) chemical recycling technology in Australia.

Cat-HTR technology can recycle a blend of end-of-life plastics that include polypropylene, polystyrene, low-density polyethylene and multilayer flexible plastic packaging, without the need to sort plastics into a single stream, the partners explained.

This process flexibility increases the total amount of plastic that can be recycled and therefore the process economics. The process produces a high yield of oil from plastic (around 85% oil, with the balance as gas that can be recycled to power the process), they added.

BioLogiQ will support a partnership between Licella and iQ Renew to commercialize the technology in Australia, while Mura Technology will work alongside BioLogiQ to bring the Cat-HTR solution to China.

"We believe the Cat-HTR technology has cracked the code of scalable, efficient, and economical chemical recycling," said BioLogiQ Founder and Chief Executive Brad LaPray.

"This collaboration represents an investment in our future. BioLogiQ customers will know they are supporting a bioplastics company that is as seriously committed to recycling as themselves. By accelerating and supporting the commercialization of chemical recycling, BioLogiQ takes another big step in its quest to make plastics better."

Gabriel Purchases Remaining Portfolio Of Alkyd Resins from Deltech Resins

Akron—Gabriel Performance Products has acquired the remainder of Deltech Resins' alkyd resins product line (PCN, 28 Oct 2019, p 3).

The transaction, for which a value was not given, includes Deltech's vinyl toluene, silicon modified specialty solutions and coconut. Gabriel will produce the products at its Harrison City, Penn., facility, using its alkyd resin technology.

Gabriel recently purchased a subset of the alkyd resin product line from Deltech.

Avantium Picks Chemie Park Delfzijl As Location for New FDCA Facility

Delfzijl—Avantium Renewable Polymers, a wholly-owned subsidiary of Avantium, has signed a letter of intent to build its new plant-based furandicarboxylic acid (FDCA) plant at Chemie Park Delfzijl in the Netherlands (PCN, 24-31 Dec 2018, p 2).

The 5,000-t/y plant, which will be located near the company's plant-based monoethylene glycol demonstration plant, will produce FDCA, the building block for many chemicals and plastics such as polyethylene furanoate. Completion is scheduled for 2023.

Avantium Renewable Polymers also entered into a letter of intent with a regional consortium relating to a conditional financing of €30-million for the engineering and construction of the plant, working capital, start-up costs and operations of Avantium Renewable Polymers.

The regional consortium comprises the Province of Groningen, Groningen Seaports, NOM (Investment and Development Agency for the Northern Netherlands), FondsNieuweDoen, Investeringsfonds Groningen and Groeifonds.

PTTGC's GCM Subsidiary Establishes New Indonesian Marketing Company

Jakarta—PTT Global Chemical (PTTGC) said that its wholly-owned GC Marketing Solutions Co. (GCM) subsidiary has set up a new Indonesian company, PT GCM Marketing Solutions Indonesia.

The Indonesian subsidiary, which was established to support GCM's import and export trading business, will engage in the retail and wholesale distribution of polymers products in the country.

Iran Expects to Launch PC Plant Each Month Through March 2021

Tehran—Iran said it will launch an average of one petrochemical plant per month from January 2020 through March 2021, reported NIPNA citing Behzad Moahmmadi, chief executive of the National Petrochemical Co. of Iran.

According to Moahmmadi, 56 petrochemical facilities are currently operating in the country, supplying 54-million t/y of capacity.

"This figure will reach 100-million t/y by 2021 and over 133-million t/y by 2025," he noted. "The total investment volume in the sector will jump from \$53-billion currently to \$70-billion in the year 2021 and \$90-billion by 2025," he added.

Humpuss Intermoda Planning to Invest \$10-Mn in Two New Chemical Tankers

Jakarta—Humpuss Intermoda Transportasi, an Indonesian Shipping firm, plans to spend \$10-million this year for two new chemical tankers, according to the Jakarta Post.

The company plans to purchase a total of seven vessels, including a floating storage regasification unit and four offshore support vessels.

The company operates around 84 vessels, mainly oil and gas tankers. Last year, Humpuss acquired only one of the five chemical tankers it planned on purchasing.

"The planned purchase in 2020 depends on the availability of the vessels in accordance with our preferred specifications and budget allocations," said the report citing Humpuss Intermoda President Director Budi Hayono.

PetroChemical News Briefs

- Dow said order control is in effect for vinyl acetate monomer, effective immediately, or as individual contract terms permit. Order control volumes will be based upon customer's monthly average of purchased volume, or will be restricted to the monthly maximum Dow is contractually obligated to sell.

- Synthetic resins producer DFC plans to advance into the Russian market, a "rapidly emerging" market for synthetic resins for coatings, the company announced. DFC produces alkyd, acrylic, polyester and amino resins, as well as curing agents and self-healing resins.

- BASF has upgraded and expanded its water-soluble polyacrylate production plant in Ludwigshafen, Germany. The project required a single-digit million-euro investment.



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