Manufacturing East Connections

Published for the community by NOVA Chemicals

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Highlights of What's Inside...

Our Commitment to Growing Our Ontario Operations Just Got a Big Boost

I'm proud to share with you that we are moving forward with two significant projects for our St. Clair Township operations involving a capital investment of approximately $2 billion:

1. **New Polyethylene Facility:** A second Advanced SCLAIRTECH™ technology facility (AST2) located at the new Rokeby Site.
2. **Corunna Cracker Expansion (Phase 3):** Linked to the new facility as it will provide ethylene feedstock.

Site preparations are already underway with start-up targeted for late 2021.

Over the past decade NOVA Chemicals has invested nearly $1.2 billion into our Ontario manufacturing facilities located in St. Clair Township. With these new projects, we continue to improve our competitiveness, bring new technology to Ontario, grow our province's manufacturing exports and strengthen the area's growth and our long-term viability.

We estimate our projects will result in **significant construction employment opportunities** — 800 to 1,000 workers at peak. Initial estimates are for several million construction labour hours, with the majority sourced from the local area.

We estimate these projects will create approximately **150 permanent full time jobs between NOVA Chemicals direct hires and contractors**. We also estimate the spin-off impact to the local community will result in at least 750 additional new jobs in the local community.*

Preliminary work is underway on two major projects for our St. Clair Township operations, with start-up targeted for late 2021.

As part of our commitment to Responsible Care®, we will continue to engage with our communities about our facilities, operations and growth plans in order to share information, seek input and respond to questions or concerns.

We value our communities. Thank you for your support!

Tom Thompson
Regional Manufacturing Director

**Based on the Chemistry Industry Association of Canada's commonly used multiplier effect for investments in the manufacturing sector of five indirect jobs from every direct job.*

NOVA Chemicals®

In Our Community

Project North: Supporting First Nations Youth Leadership Initiatives

NOVA Chemicals has been a proud supporter of YMCA youth programs in Sarnia-Lambton for the past three years. We also proudly support YMCAs across Southwestern Ontario as sponsor of the YMCA Youth Aboriginal Leadership Initiative as well as the YMCA Leaders of Tomorrow program.

Building on the success of those programs, we were thrilled to be the 2017 lead sponsor for YMCA Project North. With a focus on leadership development, community involvement, philanthropy, and life experience, this program empowered youth to look beyond their own backyard and build leadership and problem-solving skills through communication, teamwork and fun.

NOVA Chemicals and the YMCA share the belief that building healthy communities can start with inspiring and engaging youth. It's important to us at NOVA Chemicals to develop and sustain healthy communities where we live and work and partnering with the YMCA is a great way to do that.

Youth who participated in the exciting Project North program had a great opportunity to forge new friendships and be part of a unique experience.

Taking Care...to Protect and Enhance Our Natural Resources

Community Parks Clean-Up Day

Employees took part in the City of Sarnia Community Parks Clean-Up Day. As part of the Earth Day pledge to help clean up in the community, promote civic pride and take care of our natural resources, the team hauled bags of garbage, recycling and brush from a neighbourhood park. NOVA Chemicals has also been the proud lead sponsor for this event for the past three years, supplying the clean-up kits including garbage and recycling bags, safety gloves and first aid kits.

Great Canadian Shoreline Clean-Up

Protecting our shorelines and waterways is an important part of our taking care philosophy and Responsible Care commitment.

Earlier this fall, employees partnered with Aamjiwnaang First Nation and took part in the Great Canadian Shoreline Cleanup. While the event was cut short due to heavy rain, the group still managed to collect trash and recyclable material from almost a kilometer of shoreline.

New Annual Sponsorship: *Threads of Life*

Throughout NOVA Chemicals we have an unwavering commitment to public, employee and contractor safety and Goal Zero (incidents, injuries, illnesses).

To support our commitment, we recently announced a three-year sponsorship of *Threads of Life*. Like us, this organization's network of family members and other corporate partners believes that workplace injuries, occupational diseases and deaths are preventable. *Threads of Life* is dedicated to supporting families along their journey of healing who have suffered from a workplace fatality, life-altering illness or occupational disease. The agency provides programs and services to more than 2,500 families across Canada at no cost.

Update on Growth Projects

Two New Significant Projects to Proceed

NOVA Chemicals recently approved two significant projects for our St. Clair Township operations involving a capital investment of approximately $2 billion.

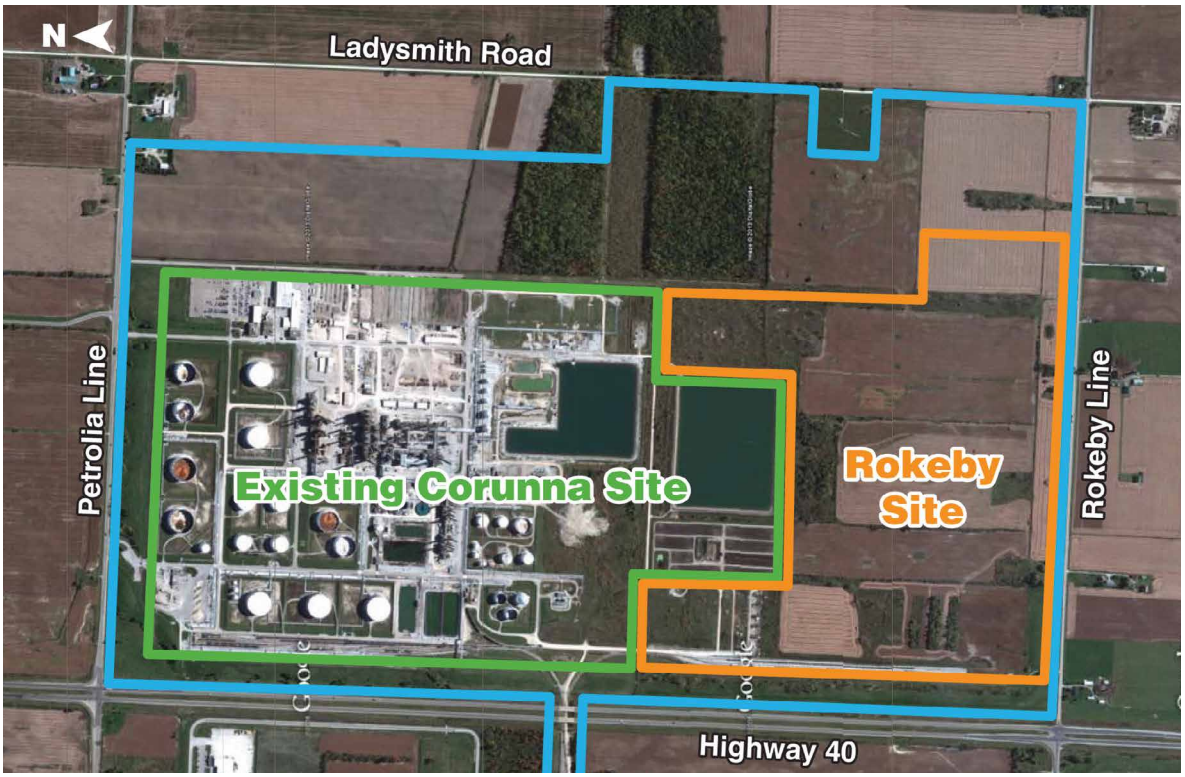
1. New Polyethylene Facility

A second Advanced SCLAIRTECH™ technology facility (AST2) will be located at the new Rokeby Site, adjacent to our Corunna Site. With a capacity of approximately one billion pounds of polyethylene per year, the facility will allow us to continue to grow our polyethylene business in high performance applications and will provide greater supply reliability for our customers. Site preparation began in October with start-up targeted for late 2021 (for the preliminary schedule, see page 5.)

2. Corunna Cracker Expansion (Phase 3)

This project is linked to the new polyethylene facility as it will provide ethylene feedstock. The expansion will increase the existing unit's current ethylene capacity by more than 50%, up to the rate currently approved by regulators. Expected completion is targeted for late 2021.

Future issues of Connections will provide more information on the projects, as detailed engineering is completed and significant site work continues.



Our new polyethylene facility located next to our existing Corunna Site has the advantage of being adjacent to a reliable supply of ethylene feedstock, which will be provided through the next phase of our Corunna cracker expansion. These projects are linked and generally follow the same schedule for engineering, construction, commissioning and start-up.

Native Plants Harvested From Future Location of Rokeby Site

NOVA Chemicals hosted members of Aamjiwnaang First Nation and a representative from Return the Landscape, as part of a collaborative effort to harvest native plants from the future location of the new Rokeby Site.

Aamjiwnaang First Nation and Return the Landscape work together to promote the use of native plants in landscaping and restoration. Native plants are species that have developed in an area over time. In essence, this refers to the species that would have been in St. Clair Township before European settlement.

More than 300 native plants were harvested over a two-day period, and transported to the Aamjiwnaang First Nation greenhouse for resale back to the community.

From left to right are: Kyle Williams, Aamjiwnaang First Nation; Larry Cornelis, Return the Landscape; Keegan Bressette, Aamjiwnaang First Nation; and Dylan Henry, Aamjiwnaang First Nation.

Highlights of Upgrades Underway

Corunna All-Ethane Conversion

This $400-million project will convert the Corunna ethylene cracker to utilize up to 100% ethane feedstock. This project builds on the 2014 revamp of our Corunna cracker to use ethane feedstock from the Marcellus Shale Basin via the Genesis Pipeline Extension completed in 2013. A significant amount of project construction was completed during the scheduled Corunna Site turnaround, which began in mid-August and concluded in early November. Planned completion is targeted for 2018.

We are using local suppliers, trades, contractors and subcontractors wherever possible. A high percentage of materials and supplies have been purchased locally, including this module, fabricated at Kel-Gor Ltd. in Sarnia.

Corunna Second Feed System

The fully converted cracker will use our existing ethane feedstock capacity as well as additional feedstock from a second pipeline connection through the Kimball Pipeline Replacement Project. Connectivity is scheduled for early 2018. This second feed system will provide us with access to the Utica Shale Basin via a number of connected pipelines, which will diversify feedstock supply and transportation.

Moore Site Rail Yard Expansion

The project is nearing completion and involves the construction of new tracks that will increase our capacity to store rail cars on site. It will reduce the number of cars stored at third-party storage yards, shorten shipping times to customers, and increase control of the rail yard fleet. This project will not change production volumes, air emissions, or rail traffic to or from the Moore Site.

Planned Maintenance Complete at All Manufacturing Sites

It took the time and talent of thousands of people, and captured the attention of the region. After a tremendous effort from everyone involved, turnaround and outage activities have wrapped up at all three of our manufacturing facilities in Ontario.

Beyond scheduled maintenance, inspections, cleaning and repairs, we also completed sustaining capital work and reached project milestones for the Corunna All-Ethane Conversion and Corunna Second Feed System.

Turnarounds are critical to maintaining the safety and performance of our facilities, and they also provide tremendous benefits to the region. This significant investment is to ensure the safety, reliability and environmental performance of process units within each facility.

Included in the turnaround activities was the replacement of the Corunna Site flare tip. Flares are important safety and operational devices that burn excess hydrocarbon gases in an environmentally-sound manner. As part of our commitment to Responsible Care, this work will improve flare performance.

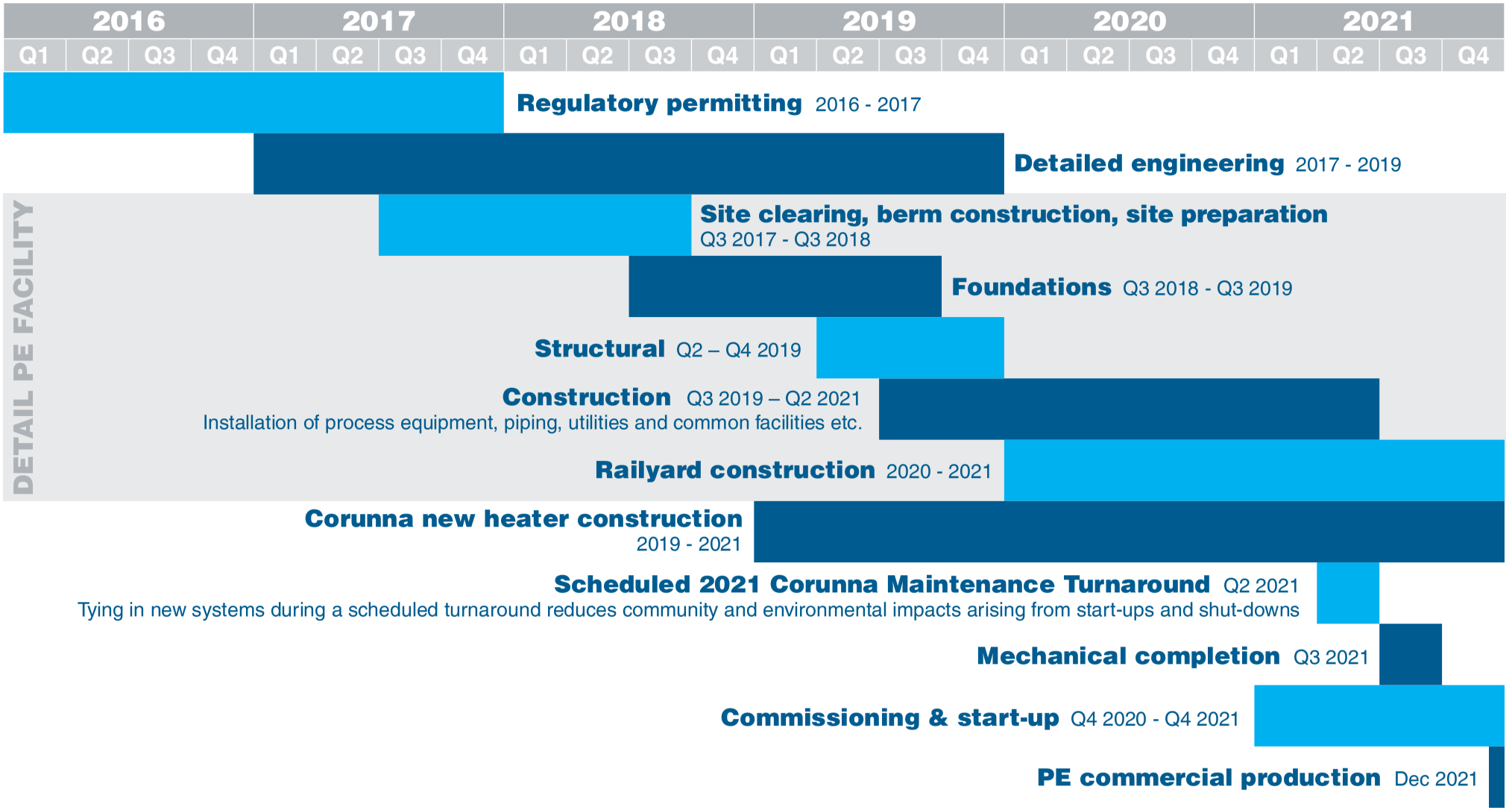
Our safety culture was strong during the turnaround period and continued through start-up. Workers were individually recognized on a daily basis by their peers for their personal commitment to safety. Leaders, employees, and contractors demonstrated incredible integrity, trust and respect to safely execute turnaround activities.

Overview of Expected Schedule

New Polyethylene (PE) Facility & Corunna Cracker Expansion (Phase 3)*

*Note: These two projects are linked and generally follow the same expected schedule for engineering, construction, commissioning and start-up. Additional detail is provided on the new PE facility construction activities as these will be more visible to the community.

December 2017



In Other News

New Fire Engine Designed by NOVA Chemicals Technical Team

Our new fire engine was proudly designed from the ground up by a NOVA Chemicals technical team of equipment users and stakeholders. Engine 5 includes top-notch technology related to pumping volume and flexibility for varied response demands as well as wireless remote control. A safety design improvement for pumper operators comes from the relocating of the pump operator panel to a centre open walkway position. This not only removes the pumper operator from the roadway and hose connections, but also allows for a much better view of the scene and water streams. With the many other design improvements engineered into Engine 5 by our technical team, this is truly a user-customized fire apparatus.

Online Access to Pipeline Emergency Response Information

In accordance with the National Energy Board (NEB), NOVA Chemicals' pipeline Emergency Management (EM) Program information is now available online for public viewing. Our EM Program guides us to provide the best emergency response under all foreseeable circumstances. It also is designed to provide a continuous cycle of improvement as mandated by *NEB Onshore Pipeline Regulations*. For access and more information, please visit http://www.novachem.com/Pages/company/pipeline-operations.aspx.

NOVA Chemicals®

Shelter-in-Place

Shelter-in-Place is a five-step life safety approach for residents in the event of severe weather, a tornado, or an industrial emergency.

If you are told to Shelter-in-Place, emergency officials recommend that you:

1. Go inside. Turn on local radio or TV.
2. Close all windows and doors.
3. Shut off furnaces, air intakes and fans that draw outdoor air inside.
4. Listen to radio or TV for further instructions. Keep phone lines free.
5. If odour is strong, seal an inside room with wet towels at the base of the door. Breathe through a damp towel to filter air.

Responsible Care® Our commitment to sustainability.

Taking Care

Do you know how to Shelter-in-Place?

We've included this convenient reference card with Shelter in Place instructions and Emergency Contact Information on the reverse.

Operations Communities Products Environment

***Connections* is published by NOVA Chemicals Corporation**

If you have any questions, suggestions or concerns, please contact:
Manufacturing East Communications
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For more information, please see these websites:

- www.novachem.com/pages/sarnia-lambton/sarnia-lambton.aspx
- Chemistry Industry Association of Canada: www.canadianchemistry.ca
- American Chemistry Council: www.americanchemistry.com

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