

SiteLine

Joffre Site Community News

Published for the Central Alberta community by NOVA Chemicals

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Special Edition: Annual Environment Review

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Steps for Life event



Cowboy Kicks fundraising event

As I look back over the past few months, this is an exciting time for me as Vice President Manufacturing West. In early April we expedited our return to the office process. Using a phased approach, the return of all “non-site critical” workers was successfully completed without incident. At the end of May, our full Joffre Site workforce had “boots on the ground” after working from home since March, 2020. Our workers have settled back into their office space and are reconnecting with their colleagues including the “site-critical” workers who remained on site enabling 24/7 operations during the pandemic. It is so good to hear chatter and laughter in the hallways and at the coffee stations. As we get back to normal operations, I’m happy to report there will be about 25 high school students on site over the summer months as part of our sponsorship and in celebration of the 25th anniversary of CAREERS: The Next Generation.

From an operational perspective, we are ramping up for our Ethylene Three turnaround in August resulting in an increased headcount at the site. We are running a profiling campaign to promote carpooling amongst turnaround workers to help minimize traffic on Freedom Road and the surrounding area. We are making carpooling easy through the use of our NOVA TO GO carpooling app. Additionally, we are mindful of and committed to reducing community impacts resulting from flaring activities.

This is our 21st environmental report to the community including summaries on water resources, noise management and air emissions management. We remain focused on ensuring air emissions are below all regulatory compliance limits. Flaring remains a necessary operational activity.

From a community perspective, I’m also excited to be re-connecting with our community. This Spring, I attended the inaugural *Cowboy Kicks* fundraising event supporting the sustainability of Westerner Park, funding for the Canadian Pro Rodeo Medical Association and profiling local artists who created 16 spectacular boots—one of them now resides at the Joffre Site. We also attended The Mustard Seed fundraiser—another full house. At the end of

May, I was one of the many NOVA walkers at a *Steps for Life* event raising awareness of the importance of workplace safety and honouring those who lost their lives through workplace tragedies. It was great to see many community members at our Spring Open House in May and our Joffre Community Advisory Panel members at our June JCAP meeting—two key community outreach activities enabling two-way dialogue and a chance to hear from our community. Congratulations to JCAP on their 40th anniversary.

I’m very excited about our recently launched “Living Lands Project” with Red Deer Polytechnic (RDP) students. With guidance from RDP Indigenous Centre and an Elder serving as a consultant for the project, the students have the opportunity to learn about the natural health of the Community Nature Trail area and to make recommendations on improvements.

On the Corporate side of things there are a couple of noteworthy items. The CIAC Responsible Care verification continued throughout the months of May and June across the organization. JCAP member, Mark Visscher was our community representative for the 2022 verification. We extend a huge thank you to Mark for taking his personal time to participate. Once the findings are reported, we will share them with the community via *SiteLine* and our Joffre Site community webpage. Our 2021 Environmental, Social and Governance (ESG) Report is now available on our website. We have a bold ambition to create a plastics circular economy and work collaboratively toward a low carbon, zero plastic waste future and look forward to sharing with you the progress we are making to achieve our vision of being the leading sustainable polyethylene producer in North America.

In closing, have a safe, healthy and fun summer. See you at the Fall Open House.

Mark Hodson, Joffre Site Leader

Sustainability and Responsible Care® are at our core



NOVA Chemicals is a leading producer of plastics and chemicals that make everyday life healthier, easier and safer.

Our customers use the plastic resins we manufacture in applications ranging from packaging for food, water, e-commerce and medical supplies to recreational equipment and artificial turf.



Plastics are made to be remade. Our bold vision is to enable a circular economy that recaptures the value of materials at end of life to help create a world free of plastic pollution.

We are building our expertise and developing new products and solutions that contribute to plastics being reused and recycled as many times as possible.



Responsible Care, developed in 1985, is the chemical industry's commitment to improving health, safety, security, and environmental performance. The ethics and principles of Responsible Care are embedded in our strategy, practices and aspirations. To help shape a world that is better tomorrow than it is today, we put Sustainability and Responsible Care at the core of everything we do to help advance our industry's commitment to **the betterment of society, the environment and the economy.**



Plastics are essential to a lower carbon future. They reduce GHG emissions compared to alternative materials and enable energy efficiency and renewable energy.

We are committed to reducing GHG emissions from our operations.

Building on our strong history, unique competitive advantages and understanding of the key market trends that will impact NOVA in the years ahead, NOVA@50 is our three-year plan to get us from where we are today to where we want to be in 2025. NOVA@50 supports our aspirational vision of being the **leading sustainable polyethylene producer in North America** by delivering safe, sustainable and high-performing operations and market leadership.

NOVA actively promotes sustainable practices and the responsible management of our operational impacts to air, water, land, and biodiversity—all key components of our Joffre Site Environmental Program outlined in this edition of *SiteLine*.

To learn more about our approach to Sustainability and Responsible Care, read our 2021 ESG Report at novachemicals.com



Our commitment to waste reduction

We are committed to reducing the amount of waste that we send to landfill for disposal. In the last six years, we continued to work hard at finding new options to divert away from landfill. Currently, waste sent to landfill is only 10.1 % of overall site waste.

Our Soil Enhancement Program continues to benefit local farmer fields with the application of our spent lime/phosphate.

In 2021, we saw an increase in site waste as we returned to site and maintenance activities. Of the waste we did generate at site, 52.1% was either recycled or recovered.

Our Rethink Recycling initiative continued to expand at site, with the collection of face coverings (over 100,000 collected). With this program we have diverted 19,940 kg from landfill.

Buffer Zone update

Land reclamation project completed: The land at the corner of TWP 39-0 and Highway 815 (commonly known as the J2000 Northeast Camp) has been returned to its former land use for agricultural production.



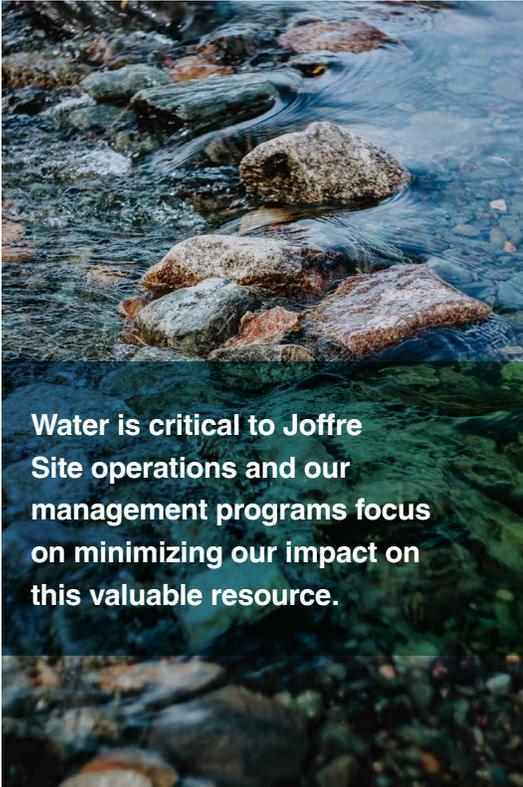
It is NOVA Chemicals' goal to keep as much of the buffer zone (2,200 acres) around the Joffre Site in agricultural production.

Monitoring our impact on water resources

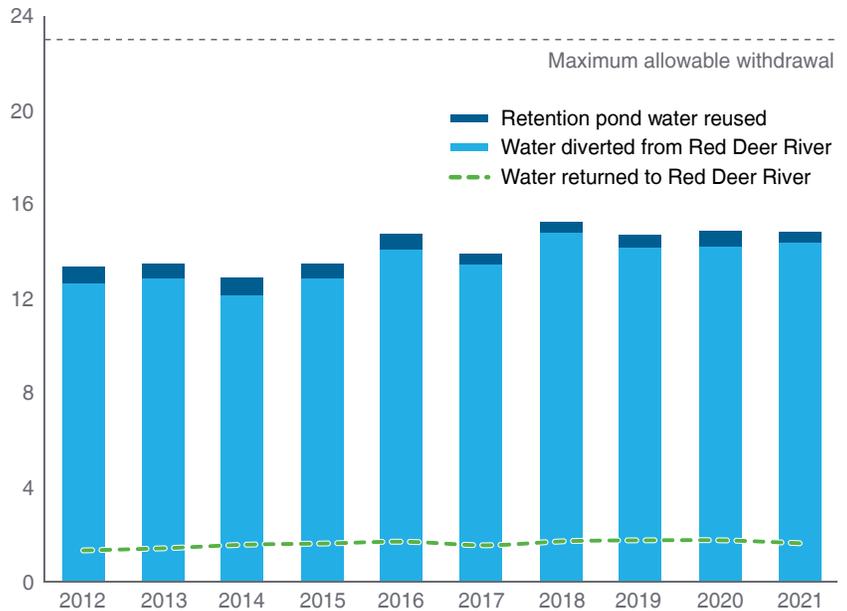
The Red Deer River has an annual flow of roughly two billion cubic metres (m³). NOVA Chemicals has water licences for approximately 23 million m³ per year, which is just over 1% of the annual flow in the river.

In 2021, we withdrew 14.4 million m³ or 63% of our allotment from the river. We also collected and used 0.44 million m³ from surface runoff.

The majority of water used in our manufacturing facilities is returned to the environment through evaporation in cooling tower plumes. The amount of water vapour released back to the ecosystem is about 80% of our intake. Water returned to the river goes through extensive testing to meet regulatory requirements and strict environmental standards before discharge.



JOFFRE SITE WATER USAGE
(million m³ of water)



This graph shows our water use at the Joffre Site. Generally, the greater the production rate, the greater our water use. Water use also fluctuates with other site activities such as turnarounds and weather conditions.

Noise management update

Noise management is important to the community and has been a key consideration at the Joffre Site. NOVA Chemicals continues to focus on noise mitigation and conducts continuous noise monitoring at four permanent noise monitoring stations located east, west, south and north of the Joffre Site.

In 2021, analysis of historical permanent noise monitoring station data was completed. This data indicated that night-time noise levels continue to be below the historic target sound levels during normal operations. In addition, ad hoc noise monitoring was conducted during unit shutdowns and startups.

The North Rail Abatement Strategy 2021 results indicated that sound levels continue to be below the Alberta Energy Regulator Noise Directive.

There was one rail curfew exceedance for the north rail yard in 2021.

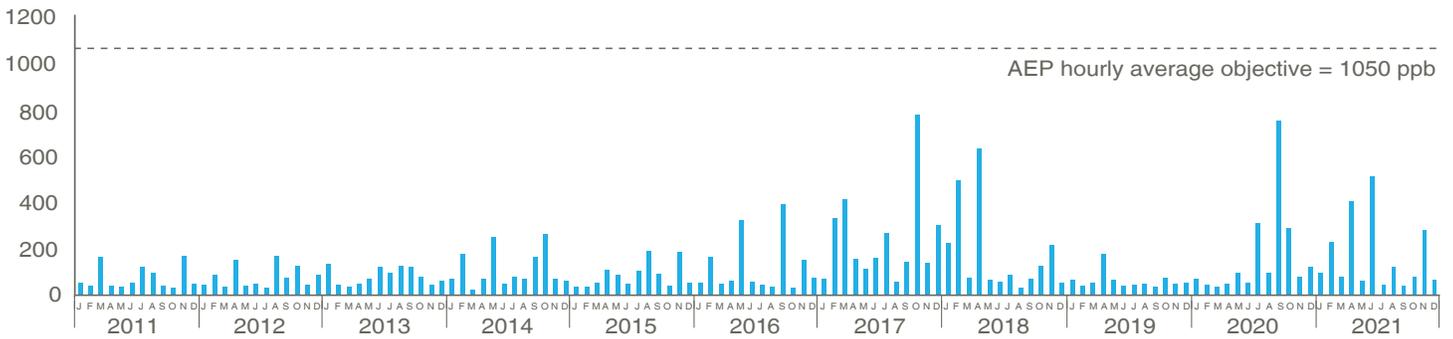


Ensuring air emissions meet Alberta Ambient Air Quality Objectives

Through the Joffre Site Air Emissions Management Program we strive to reduce emissions, monitor impacts and continuously review our performance. We remain focused on ensuring air emissions are below all regulatory compliance limits and air quality objectives set by Alberta Environment and Parks (AEP). NOVA Chemicals interfaces with regional groups such as the Parkland Airshed Management Zone (PAMZ) and the Red Deer Air Quality Committee.

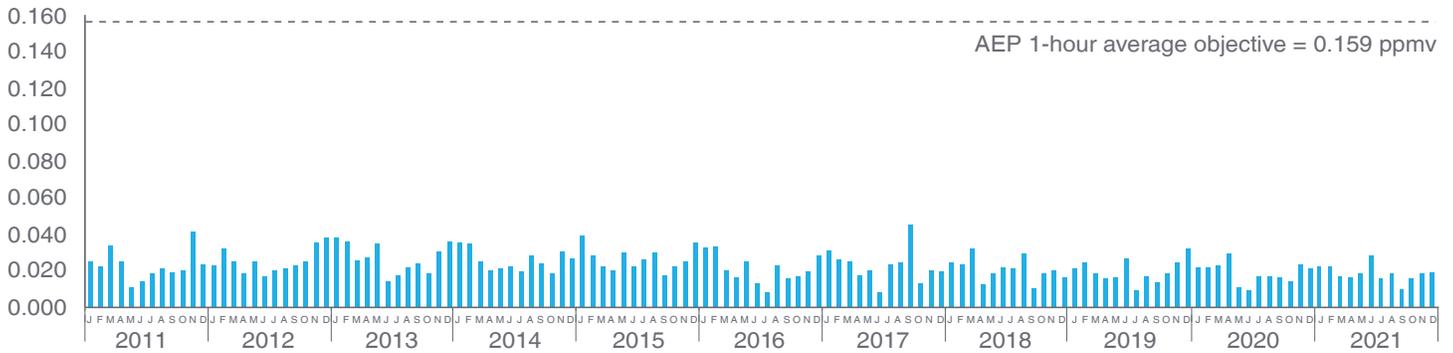
Data related to a variety of air quality parameters, as shown in the graphs below and on page 5, indicates our concentrations are consistently below established objectives.

AMBIENT AIR ETHYLENE 1-HOUR MAXIMUM CONCENTRATIONS (ethylene reading [ppb])



Ambient ethylene (1-hour maximum) concentrations are well below the AEP Hourly Average Objective of 1,050 parts per billion (ppb). The high concentration readings correlate with outage dates and plant start-ups, where most often additional flaring and equipment purging occurred. Operational corrections for flaring events and repairs made through the LDAR program (Leak Detection and Repair) have been made as necessary, and have successfully reduced the number of high concentration readings.

AMBIENT AIR NO₂ 1-HOUR MAXIMUM CONCENTRATIONS (NO₂ readings [ppmv])

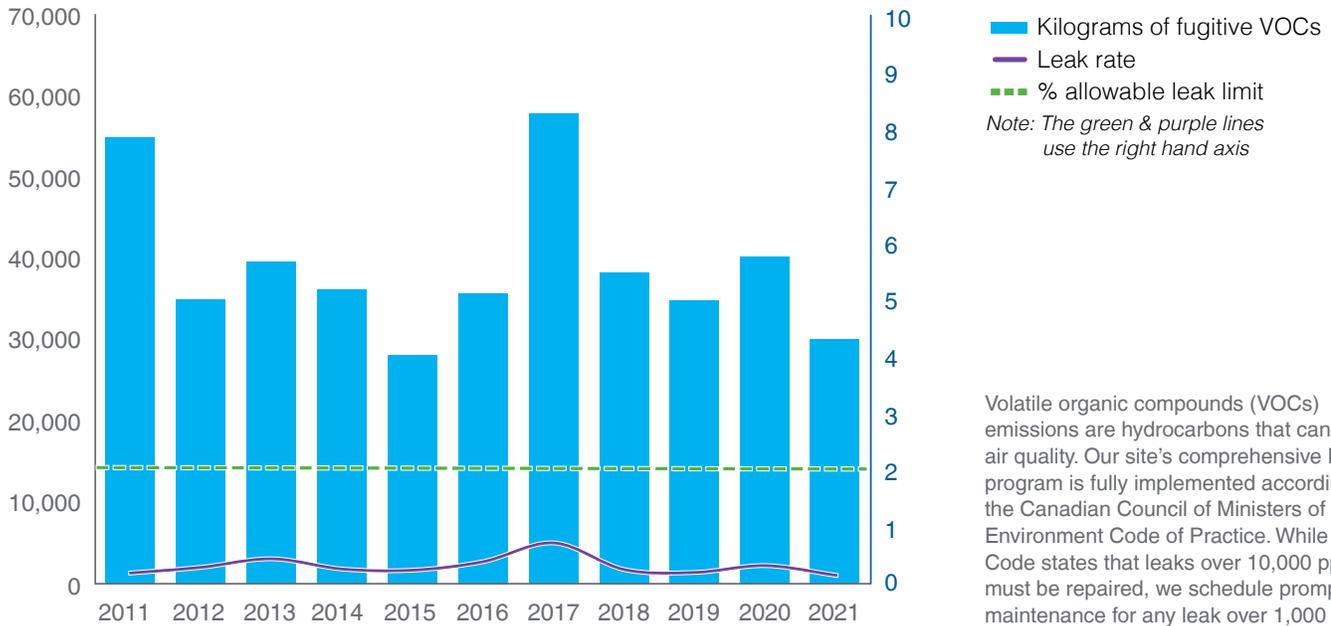


Concentrations of oxides of nitrogen (NO_x), specifically NO₂, are consistently below regulatory limits. The Ethylene 2 (E2) Furnace Refurbishment Project has reduced emissions as a result of furnace design improvements including new burners.



PETROCHEMICAL FACILITY FUGITIVE VOCS
(kilograms of fugitive VOCS)

(% allowable leak rate)



Volatile organic compounds (VOCs) emissions are hydrocarbons that can affect air quality. Our site's comprehensive LDAR program is fully implemented according to the Canadian Council of Ministers of the Environment Code of Practice. While the Code states that leaks over 10,000 ppm must be repaired, we schedule prompt maintenance for any leak over 1,000 ppm.

Lacombe County officials annual Joffre Site Visit

Annually, we host elected officials and staff from Lacombe County at our Joffre Site. The June 2022 visit was the first in-person meeting since 2019.

These annual visits give us the opportunity to discuss areas of interest related to our site operations and plans, as well as collect input or concerns from the community.



Goat grazing at the Community Nature Trail

Goats will be grazing the NOVA Chemicals Community Nature Trail through the Summer months as a sustainable measure to control weeds and prevent grass fires.

Please pay attention to signage and do not disturb the goats or working dogs.

ATTENTION GOATS AT WORK
Goats, working dogs, goat herder and herder's "camp" currently on-site.

DID YOU KNOW?
Goat grazing provides sustainable weed control and helps to prevent grass fires.

- DO NOT pet goats or working dogs
- Keep your own dogs ON LEASH
- DO NOT disturb the herder's camp



Share your wildlife sightings at the Community Nature Trail

We encourage visitors to the NOVA Chemicals Community Nature Trail to continue to tell us about their wildlife sightings at the Trail.

We would love to hear from you and welcome your stories and photos. Send to joffresite@novachem.com.

NOVA Chemicals Community Nature Trail

If you're feeling the need to decompress, consider a quiet stroll with nature at our Trail.

NOVA Chemicals

Our first in-person community open house since Fall, 2019... a success

Nearly 50 neighbours joined us at the Spring Community Open House on May 10. Among the event highlights, Kale Chessor and Nate Dobinson took the podium and thanked NOVA Chemicals for their past support presenting us with an award and invited us to the May Lacombe District 4H Beef Sale. Chessor further reminded everyone of the value of the 4H clubs and how it enabled him an opportunity of growth and confidence. None of this would be possible without sponsorships like NOVA's.



Communication and open dialogue with our neighbours is a priority. Open houses provide an opportunity to inform our neighbours about site operations/activities and to encourage community dialogue.



Nearly 20 youth guests had some fun experimenting with science activities hosted by NOVA's genScience volunteers.



Kale Chessor and Nate Dobinson thanked NOVA Chemicals for our continued support of 4H clubs.



Aubrie Flewelling (East Lacombe) (left) and Hope Sahlin (Central Lacombe) (right) presented NOVA rep Rich Guido with appreciation banner for purchase of Reserve Champion Steer.



Sustainability Action Team — different name; same game

Earlier this year, NOVA Chemicals launched NOVA's Sustainability Action Teams (SAT) across all regions. The Manufacturing West Taking Care in Action (TCIA) Team was the foundation and model used to form the SAT Teams.

Even though our brand has changed, our purpose is steadfast: **We are an employee-led team passionate about sustainability and acts on initiatives that reduce environmental impact and/or raises awareness to influence positive personal behaviours.**



Manufacturing West
**Taking Care
In Action**



Manufacturing West
**Sustainability
Action Team**

Joffre Site Ethylene 3 (E3) maintenance turnaround planned

Our E3 facility will be shut down during August and September for a planned maintenance turnaround. Pre-work started in early May.



What you can expect?

- Approximately 1,200 contractors at peak
- Flaring during plant shut-down and start-up

AS ALWAYS, MINIMIZING IMPACTS ON THE COMMUNITY IS A KEY AREA OF FOCUS.

- Bussing contractors to alleviate high traffic volumes to site
- We are encouraging carpooling with our NOVA TO GO app

Why a turnaround? Chemical facilities need periodic maintenance and renewal outside of day-to-day maintenance. Turnarounds also provide an opportunity to do improvement projects.

If you have questions about this activity, call our 24-hour number 403.314.8767 or email joffresite@novachem.com.

For more business and environmental information, please visit: www.novachemicals.com.



NOVA Chemicals®

INEOS

Fall Community Open House

- Date:** Wednesday, November 9, 2022
- Time:** 5:30 to 6:30 p.m. "Drop in to Chat"
6:30 to 7:30 p.m. Presentation/Discussion
- Place:** Haynes Hall (Travelling east on Highway 11, turn north (left) on Range Road 244 for 3.3 km to Township Road 390. Cross over 390 and take first left into parking lot of Haynes Hall.)
- Agenda:**
- Get business and facility operations updates
 - Discuss any topic of interest
 - Provide your input and suggestions
 - Fun science experiments for kids

Refreshments will be served. We hope to see you there!

Manufacturing West Sustainability Action Team (SAT) 2022 activities



Manufacturing West
Sustainability Action Team

New initiatives

LUG YOUR MUG CAMPAIGN

Over **479 employees** and **46 contractors** have pledged to use a reusable mug at work instead of disposable cups. This could **divert 180 tonnes/year of waste from landfill**. In a pre-COVID year, ~400,000 disposable cups were used at Joffre Site. Employees who pledged received a free YETI mug.



COMPOSTABLE CUPS INTRODUCED AT SITE

We are transitioning to compostable coffee/tea cups for when required (eg. visitors) to help keep disposable cups out of landfill.

BIKE SHARE INITIATIVE

Encourages employees to “**Take. Ride. Return.**” bicycles supplied by MW SAT to reduce the use of vehicles around the Joffre Site.



Ongoing Promotional Campaigns

GREEN DEER ANNUAL SPRING CLEANUP

We encouraged employees, contractors and their families to pick up litter as part of Kerry Wood Nature Centre’s Red Deer annual spring cleanup.

RED DEER TREE PLANTING

28 volunteers helped plant 828 saplings (including aspen, willow, cranberry and dogwood) as part of the Red Deer Community Reforestation Program. NOVA employees and family members have planted **over 15,500 tree seedlings in the last 24 years** at various locations within The City of Red Deer.



RED DEER RIVER CLEANUP

Twice a year NOVA volunteers join community participants to help clean up the banks of the Red Deer River. As sponsors, **NOVA provided the main event prizes**. The Spring clean-up netted **32 bags of trash** including everything from face masks to a snake skin in near-perfect condition. We are planning our sponsorship of the national initiative, the Great Canadian Shoreline Clean-up on September 24.



Back to “normal” after COVID-19

ADOPT-A-HIGHWAY CLEAN-UPS

14 Central Alberta youth groups sponsored for 2022 Spring and Fall highway clean-ups for an in-person traditional program vs. a modified program in 2020 and 2021. \$1,000 raised for each group; **35 km of ditches cleaned** on Highway 11, Highway 815, Twp 39-0 and Freedom Road.



CARPPOOLING

Our carpooling app NOVA TO GO has been reactivated with a current promotion to get site residents used to the tool again.



RETHINK RECYCLING INITIATIVE

Ongoing promotion and awareness of our on-site recycling program, including “Did You Know” recycling tips communicated to employees.



Still to come this year

BUILDINGS 1 AND 2 ENERGY AUDIT REPORT AND RECOMMENDATIONS

Once the audit report and recommendations for improvements to reduce energy are received, the team will develop a plan to optimize energy use in both buildings.

BUILDING 3 LED LIGHTING UPGRADES

Joffre Community Advisory Panel (JCAP)

Working on behalf of the community for 40 years



NOVA Chemicals Joffre Site, located in Lacombe County, has been working with the community for many years. In fact, the original FARM-AGE community advisory group started meeting 40 years ago in 1982—shortly after our operations started at the site.

Today, the Joffre Community Advisory Panel (JCAP) continues to promote and enhance two-way communications between the community and industrial operations resident on NOVA Chemicals' land holdings.

Meeting quarterly, the group covers a wide range of topics from business results to operational challenges, to environmental performance, community contributions and engagement activities. Raising and discussing community interests and concerns is key—and provides valuable input into our operations. JCAP members are interested in hearing from the community and want to hear from you.

For information about the Joffre Site: www.novachem.com/joffre

For more information on JCAP including contact information:
www.novachem.com/wp-content/uploads/JCAP_Brochure_2021.pdf

Community connections are more important than ever.

JCAP continues to play an important role in shaping the community focus of the Joffre Site and in fostering ongoing positive working relationships with industry, neighbours and the surrounding community.

Thank you to all the community representatives on FARM-AGE and JCAP through 40 years!



JCAP members L-R: Mike Forsyth, Eric Peters, Ken Burden, Mark Visscher, Kathy Pyper (4 members missing from photo).



Ken Burden, JCAP (then FARM-age) founding member.

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P.O. Box 5006, Red Deer, AB, T4N 6A1

Attn. Gwen Clarke: 403-314-8619

For more information, please see these websites:

- www.novachemicals.com | www.novachem.com/joffre
- Chemistry Industry Association of Canada: www.canadianchemistry.ca
- American Chemistry Council: www.americanchemistry.com



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