

TECHNOLOGY

Petrochemicals

PURPOSE

The Petrochemicals Technology team improves operations, and identifies and evaluates emerging technologies. These actions help increase profitability, and position NOVA Chemicals at the forefront of the petrochemicals industry.

A primary function of our operations involves conducting research and development to minimize and eliminate process upsets. We aim to astutely develop and improve chemical processes and generate novel ideas pertinent to all our chemical operations. The work we do is supported by cost-effective partnerships, both internally, and externally with customers, government agencies and universities. Examples of this strategy in action are our collaboration with:

- Joffre and Corunna plants, which led to the development of a new method to extend furnace run length by the mitigation of coke deposition. This technology has been protected by patents and licensed to Kubota Metals Corporation, who manufacture and market ANK400 (anti-coking furnace tube product) worldwide. This technology excellence was recognized both internally (NOVA Chemicals President's Award) and externally by APEGGA and ASTech.



- The University of Alberta, supported by Provincial Government funds, to develop a new, more efficient and environment friendly reactor to produce ethylene.
- The Alberta Energy Research Institute and two foreign universities to assess and develop a new technology for the conversion of gas oil from oil sands into feedstocks for petrochemical operations.
- The Alberta Research Council, Sustainable Development Technology Canada, and the University of Waterloo to develop a new, low cost, low energy-consuming technology for olefin/paraffin separation.



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PEOPLE

The Petrochemicals Technology team represents a broad spectrum of scientific and engineering expertise supported by a premier research facility. Our experienced, enthusiastic and dedicated staff is capable of handling fundamental and practical problems arising in our plants, businesses, and labs.

Working together, our team has created a synergy that has helped generate an ideal atmosphere for developmental work and problem solving. Safe working habits, teamwork, timely response, cost effectiveness, and collaboration are among the attributes of this team.

ACTIVITIES/PROJECTS

Idea generation is actively promoted and qualifying initiatives enter the project "pipeline". Multi-disciplinary teams collaborate to efficiently drive these programs through to successful completion.

The key areas of our activity include:

- Providing technical support to day-to-day plant operations through creative thinking and innovative solutions.
- Further developing and enhancing steam-cracking technology, including upgrading byproducts and applying new separation methods to our plants.
- Evaluating/adapting emerging petrochemicals technologies and new feedstocks.
- Selecting and evaluating catalysts and adsorbents.

LAB AND TESTING FACILITIES

NOVA Chemicals' Testing Services labs in Calgary have a broad range of capabilities to provide support solutions to our customers. The labs are modern, state-of-the-art, and are staffed to provide timely, cost-effective, and accurate testing support.

Testing capabilities include:

- Molecular characterization
- Morphological characterization
- Catalyst analysis and characterization
- Thermal characterization
- Monomer/comonomer characterization
- Microscopic characterization

