

ORGANIC RANKINE CYCLE Osum Oil Sands Corp. | Cold Lake, AB

- Waste energy source study
- Technology selection
- Process design basis
- Design basis memorandum
- Front-end engineering & design
- Regulatory application support
- Project cost estimating
- Project scheduling

Federation's knowledge, creativity and support has enabled Osum to develop an economically viable opportunity at Orion with the goal of maximizing energy efficiency, offsetting grid power supply requirements through self-generation and reducing the operation's overall greenhouse gas (GHG) impact. It is a project that Osum is extremely proud of, and an opportunity we were able to leverage thanks in large part to the hard work of the Federation team.



- Michael Stobart, P.Eng, PMP
Project Manager, Osum



In 2019, Federation framed an opportunity for Osum to recover waste heat from the Orion SAGD process and self-generate approximately 80% of the electrical power required to operate the facility through the addition of Organic Rankine Cycle (ORC) technology. The ORC process converts waste thermal energy into electric energy in a closed-loop thermodynamic cycle with zero emissions. Turboden S.p.A., a global leader in the design, manufacture, and maintenance of ORC systems, was selected as the technology provider. Through 2020, Osum and Federation jointly progressed engineering and regulatory development for the project in order to refine the scope in preparation for full funding.

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