



**DAKOTA
GASIFICATION
COMPANY**

*A BASIN ELECTRIC POWER
COOPERATIVE SUBSIDIARY*

Dakota Gasification Company Update

Lignite Energy Council Spring Conference | April 2019

Dan Pillar



JANUARY 19, 2018
Urea Start-up

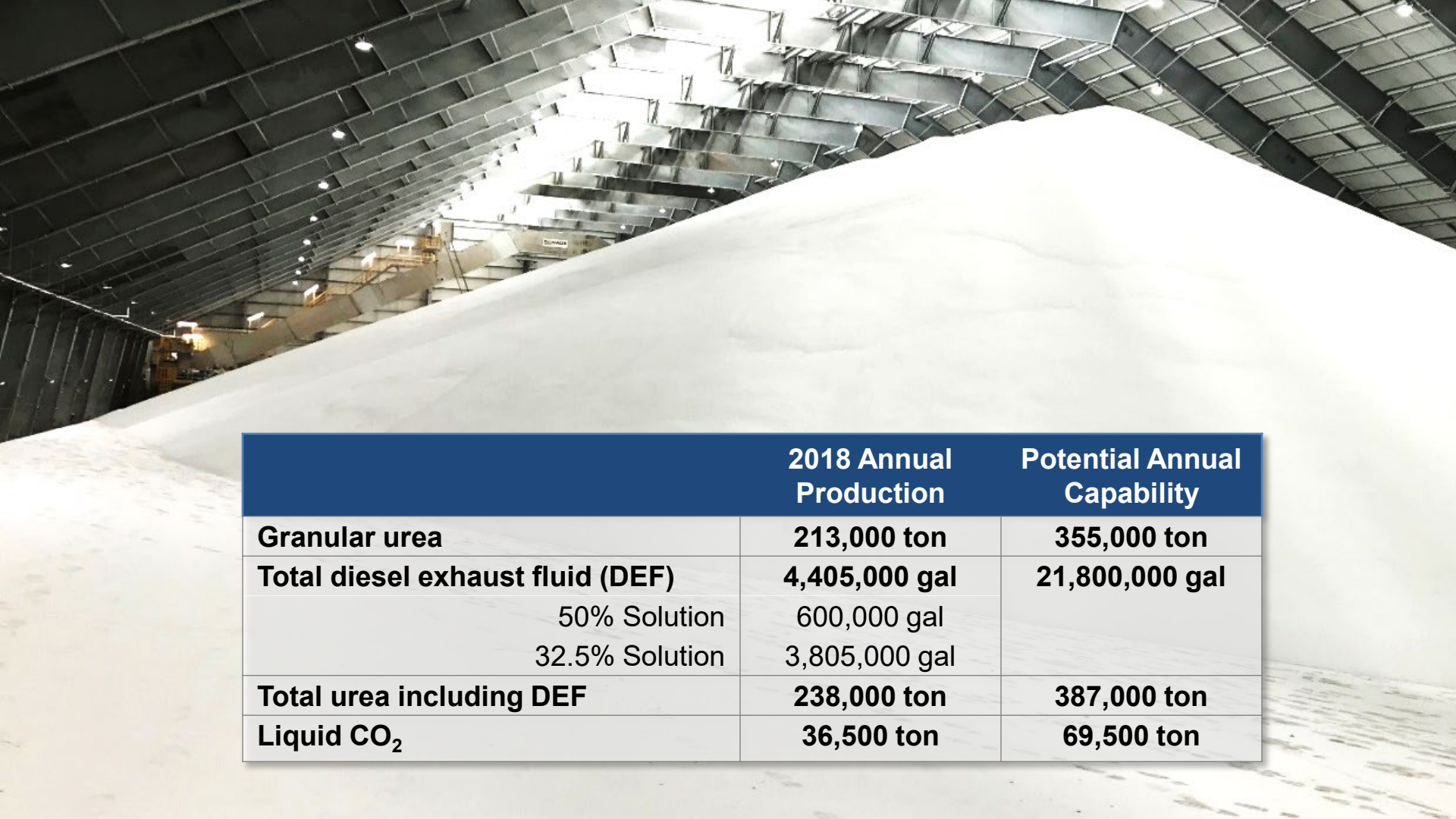
FEBRUARY 1, 2018
Commercial Operation





Production

- Anhydrous ammonia and carbon dioxide (CO_2) are feedstocks for urea
- Production rates of 1,100 tons per day
- Ability to divert product to produce:
 - Diesel exhaust fluid (DEF)
 - Liquefied carbon dioxide



	2018 Annual Production	Potential Annual Capability
Granular urea	213,000 ton	355,000 ton
Total diesel exhaust fluid (DEF)	4,405,000 gal	21,800,000 gal
50% Solution	600,000 gal	
32.5% Solution	3,805,000 gal	
Total urea including DEF	238,000 ton	387,000 ton
Liquid CO₂	36,500 ton	69,500 ton



Onsite Storage

Urea

54,000 tons

DEF

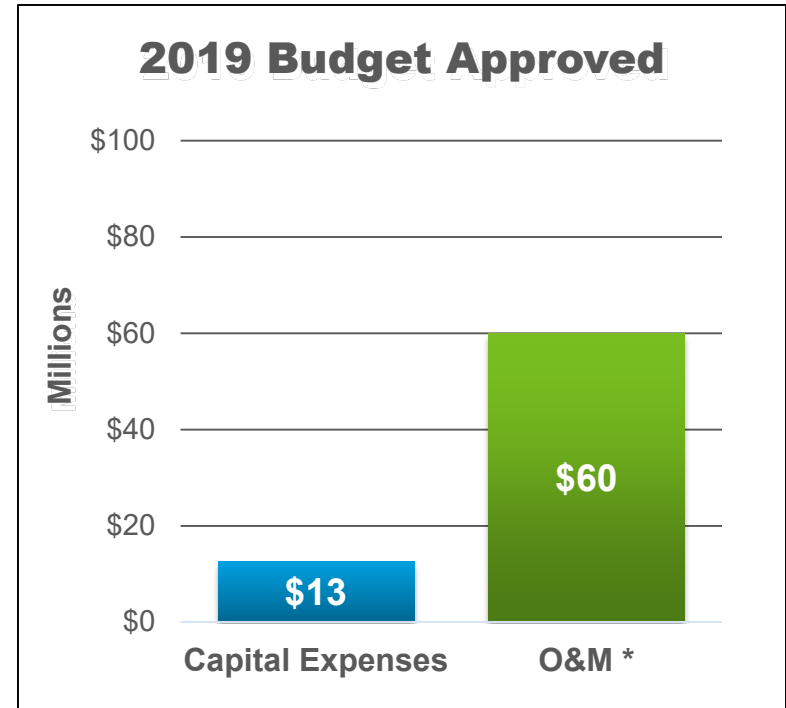
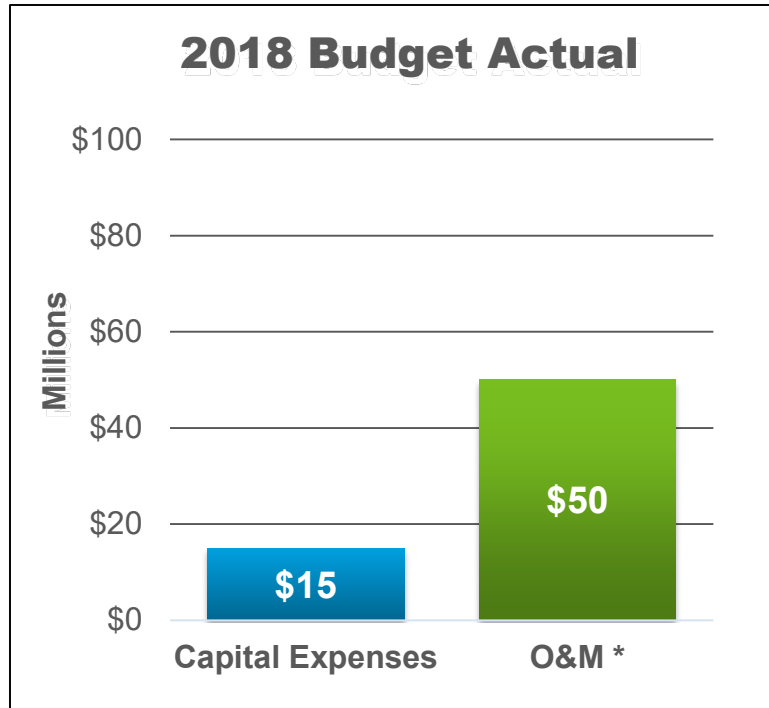
1 MM gallons

Liquid CO₂

1,000 tons

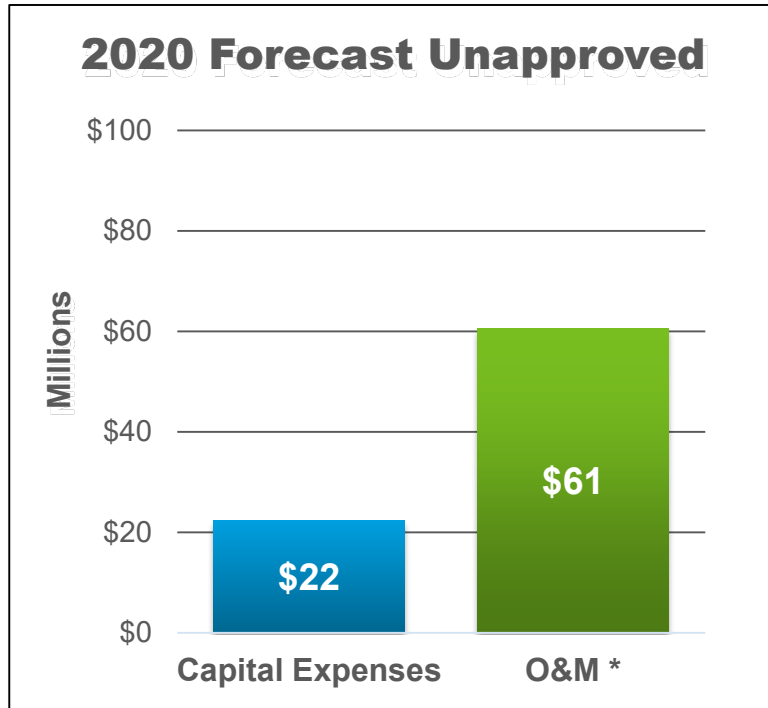
Plant Economics

Plant Economics



** Major O&M excludes coal and labor*

Plant Economics



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Turnaround Activities

2019 Major Turnaround Activities

Jun 2-14	Half Plant
Oct 5-26	Ammonia/Urea
Oct 5-17	A-Riley Boiler



2019 Material/Install to Bid (Approved)

Install sanitary sewer treatment system

Cooling water surge pond liner repairs

Motor control center, switchgear, and protective relay replacements

500 bbl oil tank replacement

DC1201 catalyst replacement - cobalt molybdenum

DC1222 catalyst replacement - cobalt molybdenum

DC4401 reformer replacement catalyst - nickel

DC1701 A/B primary methanation replacement catalyst - nickel

2019 Material/Install to Bid (Approved)

DC4400 low temperature shift replacement catalyst - copper/zinc

CEMS upgrade/replacement

Purchase and install fertilizer roll crusher

GB4403 refrigeration compressor steam turbine installation

Replace EA1801-B heat exchanger

Update chiller system in Administration Building

CO₂ pipeline unpiggable section inspections

Procurement

Procurement Contacts





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