Carbon Capture and Sequestration

Proposal for

San Juan Generating Station

Prepared by Acme Equities, LLC

February 2019



Carbon Capture & Sequestration ("CCS") is Proven Technology

$625 million Petro Nova plant in Texas has been operating commercially since January 2017,

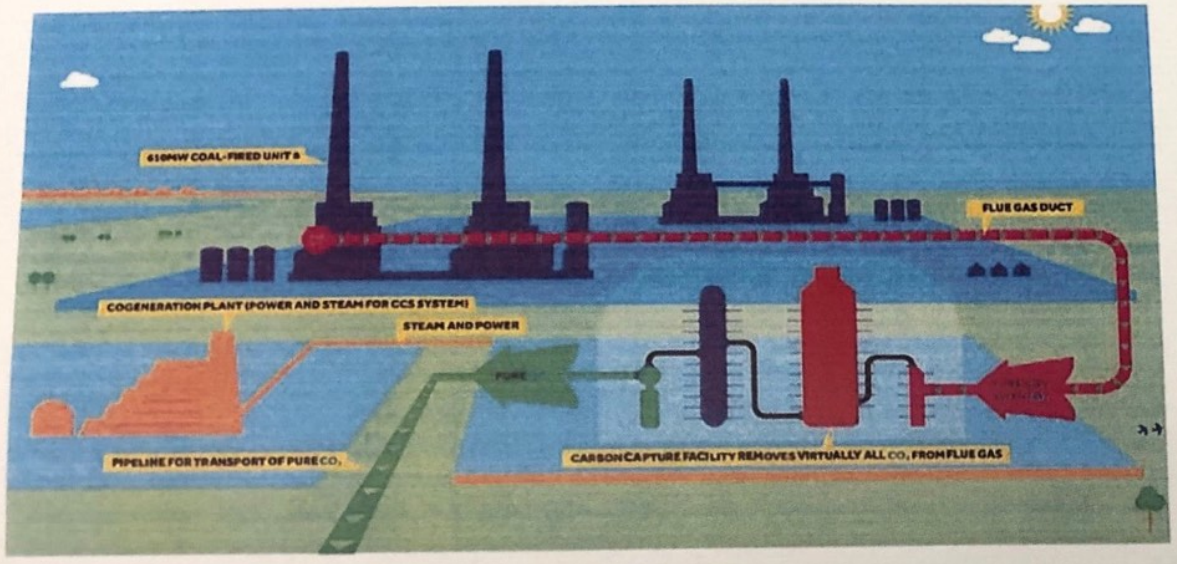
- Designed and Constructed by Mitsubishi Heavy Industries
- NRG was project manager
- Hilcorp managed the EOR project
- Funded by $190 million DOE Grant and $250 loan from Japanese Bank for International Cooperation
- Final Report prepared by DOE is Available

CCS removes 90% of CO2 from flue gas.

- CO2 is compressed, shipped by pipeline to West Texas and Southeast New Mexico, where it is permanently injected into partially depleted oil wells

Clean Air Task Force estimates 45 CCS retrofits will be installed on 10,000 MW of power plants by 2030

Schematic for Petro Nova CCS Project



W.A. PARISH POST-COMBUSTION CO_2 CAPTURE AND SEQUESTRATION PROJECT

Topical Report
Final Public Design Report

Award No. DE-FE0003311
CFDA Number 81.131

Prepared for
U.S. Department of Energy
Office of Major Demonstrations
National Energy Technology Laboratory

Prepared by
Petra Nova Parish Holdings LLC

For the Period
July 01, 2014 to December 31, 2016

etra Nova Carbon Capture Facility: Initial Experience

MITSUBISHI HEAVY INDUSTRIES AMERICA, INC.

"NRG Energy, JX Nippon complete world's largest post-combustion carbon capture facility on-budget and on-schedule[1]"

- EPC consortium award[2] July 2014
- Construction start[2] September 2014
- Performance tests completed[2] December 2016
- Commercial operation[3] January 2017
- 2017 – Power Magazine **"*Plant of the Year*"**
- October 2017 – 1M tons of CO_2 captured[4]
- Capture system continues to meet performance targets

Notes/Refs:

1) http://investors.nrg.com/phoenix.zhtml?c=121544&p=irol-newsArticle&ID=2236424
2) https://www.mhi.com/news/story/1701102039.html
3) https://www.netl.doe.gov/research/coal/project-information/fe0003311
4) https://www.energy.gov/fe/articles/doe-supported-petra-nova-captures-more-1-million-tons-co2
5) For further information see project final report to DOE: https://www.osti.gov/biblio/1344080

San Juan Generating Station with CCS retrofit is least costly alternative for New Mexico

- Solar with Storage costs between $36 and $45 per MWh according to Sierra Club/Synapse report
- PNM IRP estimates new Wind would require a PPA at $47 per MWh
- PNM IRP estimates new Gas-Fired generation will cost $47 per MWh
- **SJGS with CCS and new coal contract can provide clean power at 10% to 30% discount to Solar, Wind, or Gas-fired**

We agree with Sierra Club:

Require a Transparent Process for Replacement Power and let SJGS bid in the RFP

Result:

SJGS will provide the lowest cost Replacement Power and Save Jobs

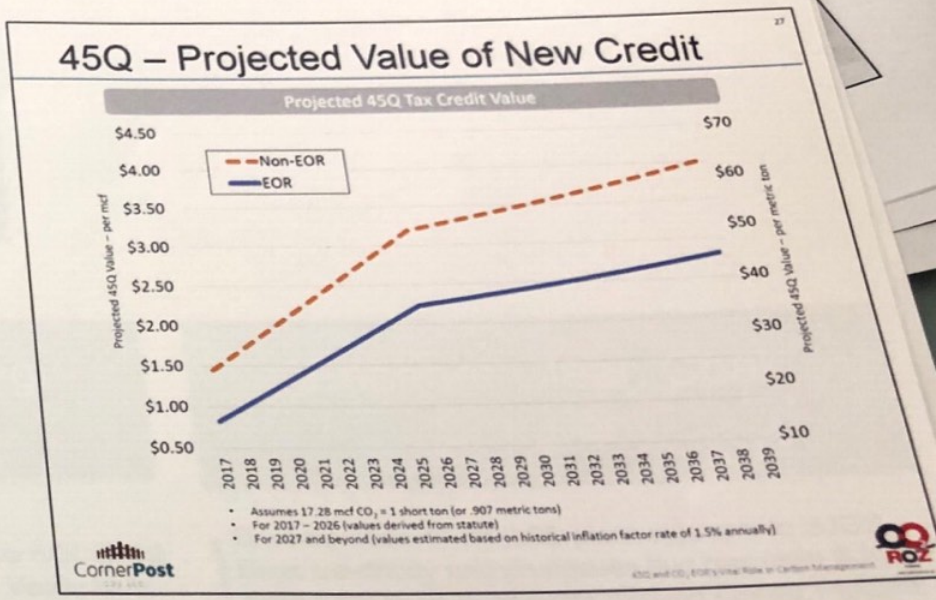
San Juan Generating Station with CCS retrofit is the Third most environmentally friendly alternative for New Mexico

- CCS retrofit will reduce 90% of CO2 emissions from SJGS
- SJGS with CCS generates less CO2 per GWH than Wind when you add emissions from gas-fired peakers
- Only Solar with Storage and Hydo produces less CO2

	Fuel	CO2 Tons/GWH
Current San Juan Generating	Coal	2182
Four Corners Generating	Coal	1864
Reeves Generating	Natural Gas	1556
New Mexico 2030 EPA Goal		1146
Afton Generating	Natural Gas	930
New Natural Gas Fired Plant	Natural Gas	400
New Wind w/Gas Peakers	Wind/Natural Gas	300
San Juan Generating with CCS	Coal & CCS	218
Solar With Storage	Solar	0
Hydro	Hydro	0

CCS is expensive but can be financed through sale of C02 to Oil Industry and 45Q Tax Credits

- Retrofit will cost between $400 million and $800 million
- Mitsubishi Petro Nova project manager formerly worked for New Mexico Department of Environment and believes cost of SJGS retrofit could be 30% less than Petro Nova
- Project can receive financing and grants from DOE as there is strong political interest in demonstrating the Administration is helping the Coal Industry
- Project can be financed by selling the CO2 to the oil industry and by monetizing the tax credits.



Meet ENCHANT ENERGY CORPORATION

Enchant Energy Corporation

Enchant Solar

40 MW PV Solar Farm
Built adjacent to SJGS
Sells power under PPA to PNM from replacement power RFP

San Juan Generating Station ("SJGS")

Low-cost 847 MW coal-fired power plant
Ownership transferred to Enchant effective 6/30/2019
After 2022, sells merchant power at Palo Verde Hub
After 2025 start up of CCS module, SJGC becomes most climate-friendly fossil-fueled power plant in Western USA

Enchant Clean Coal Company

Develop state-of-art CCS plant adjacent to SJGS
Buys electricity and processes flue gas from SJGS
Sells CO2 to EOR projects through Cortez Pipeline
Total cost $400 million - $1.2 Billion can be financ
Front end costs funded by Federal Clean Coal gra
Benefits from 45Q tax credits

Enchant Storage

100 MW 4 hour Storage
Stores excess cheap off-peak power generated by SJGS
Releases power in peak late afternoon period when Solar is not generating

San Juan Coal Company ("SJCC")

Low-cost, high quality coal mine supplying 3.25 million tons of coal to SJGS annually from adjacent mine
New contract will align Mine and Power Plant economics

McElmo Dome CO2 Field,
Cortes CO

Cortes CO2 Pipeline

40MW Solar Farm

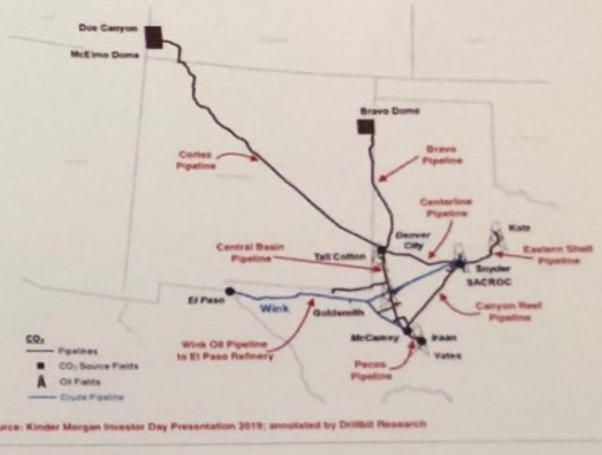
SJGS

San Juan Coal Mine/ Westmoreland

Flue gas from SJGS to New Farmington CCS Module

New 20 mile connector Co2 Pipeline

Transmission of Merchant Volumes to Palo Verde Hub



Source: Kinder Morgan Investor Day Presentation 2019; annotated by Drillbit Research

Permian Basin EOR CO2 Floods

For Further Information,
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