

Haskell Environmental Report

Pre-application discussion with the NRC

INTRODUCTION

Purpose

- To review Last Energy's Haskell project in Texas
- To receive feedback as it pertains to our environmental report

INTRODUCTION

PWR-20 Design Highlights



PWR generation III+ nuclear technology

80 MW thermal/20 MW electric with standard temperatures, pressures, and fuel enrichment.

Fully modular

Leveraging fully factory built design to deliver superior quality assurance and control.

Safe by design

Fully passive safety systems with no operator actions in accident scenarios.

Limited environmental impact

Building footprint < 1/3 acre, no water dependency due to air cooling, and no effluent.



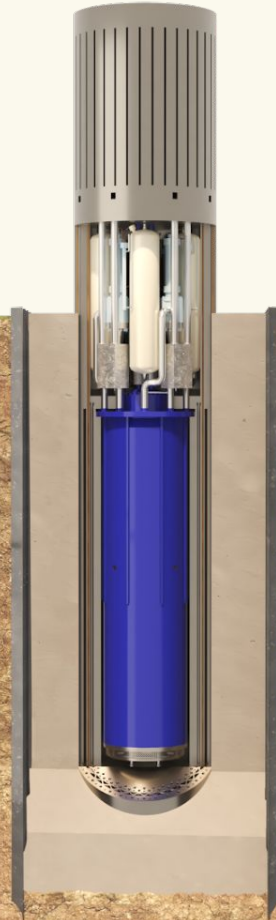
INTRODUCTION

Proven Technologies

Reactor Type	Pressurized water reactor
Electrical/Thermal Capacity	~20 MWe/~80 MWth
Reactor Coolant	Light water
Heat Sink	Air cooled
Primary Circulation	Forced circulation
Fuel Type/Assembly Array	UO2 pellet / 17x17 square array
Fuel Enrichment	<4.95%
Design Life	42 years

INTRODUCTION

Metal Containment

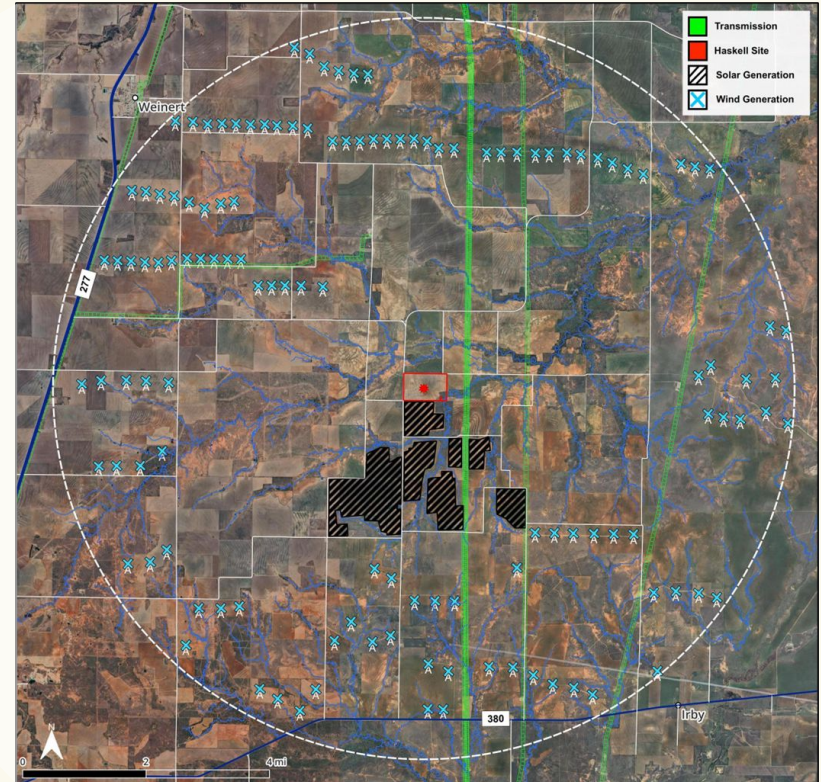


INTRODUCTION

Haskell County, Texas



Haskell Site Vicinity



INTRODUCTION

Plot Profile (1/2)



INTRODUCTION

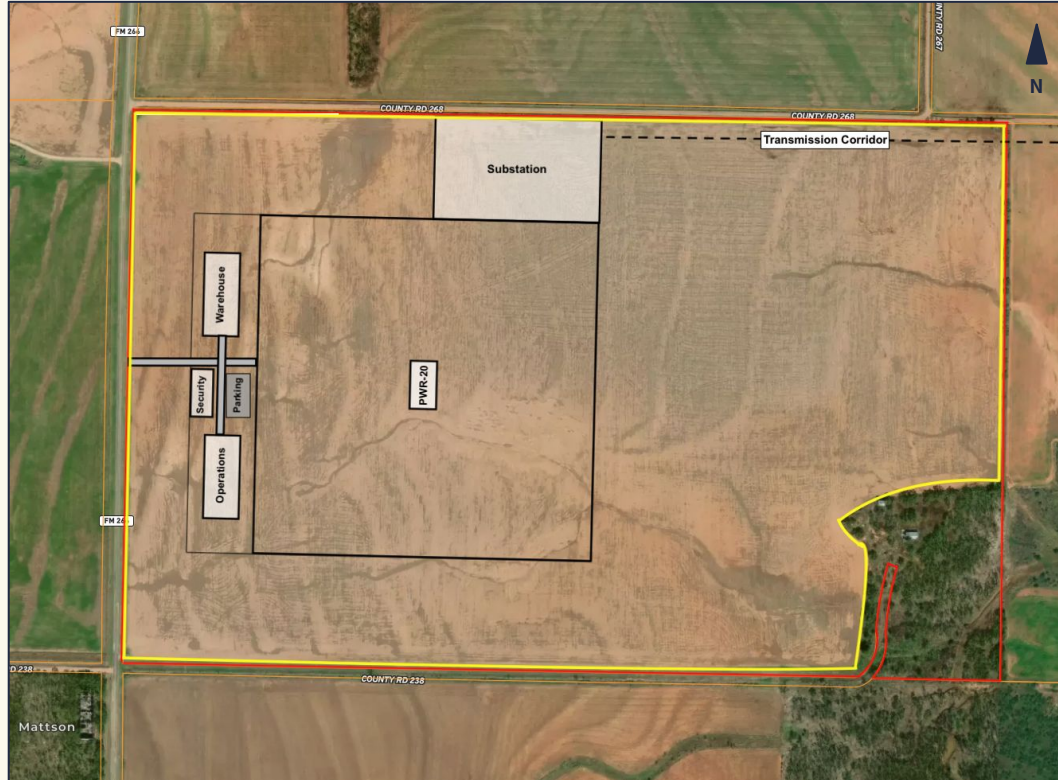
Plot Profile (2/2)



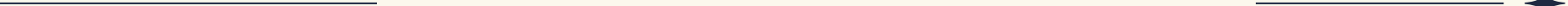
INTRODUCTION

Site Control & Layout

- Site Boundary
- Property Line



Environmental Impact

A thin horizontal line spans the width of the slide, starting from the left edge, passing under the word 'Environmental', and ending with a small four-pointed star on the right side.

ENVIRONMENTAL IMPACT

Residential Receptors



ENVIRONMENTAL IMPACT

Visual



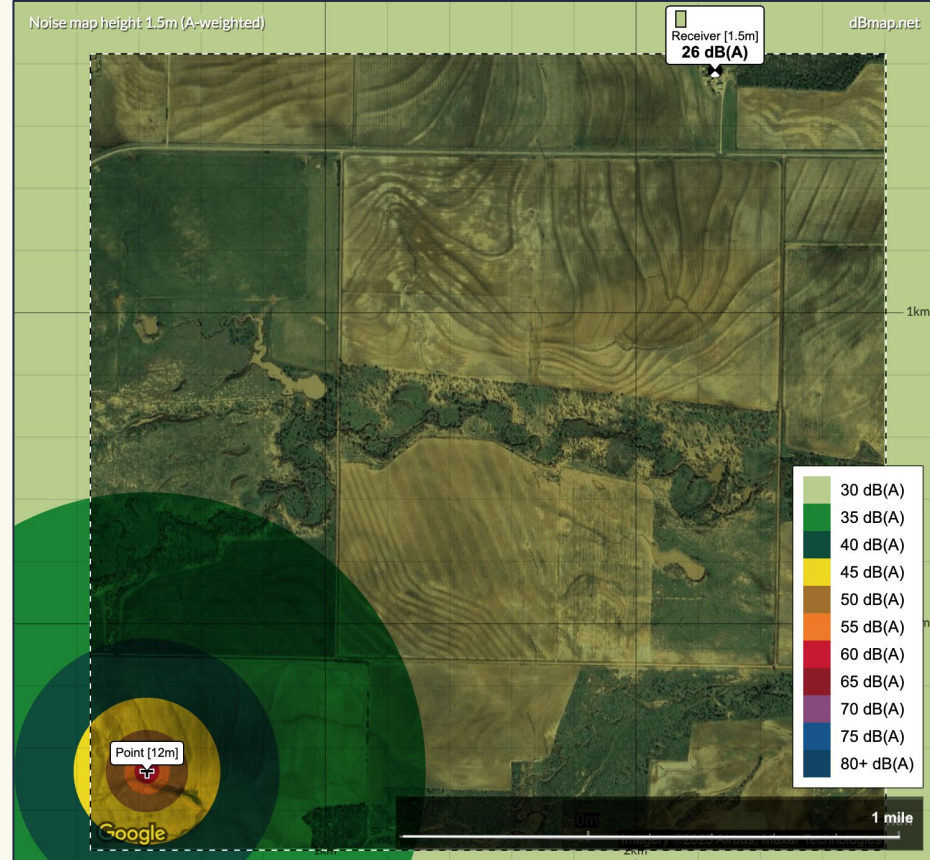
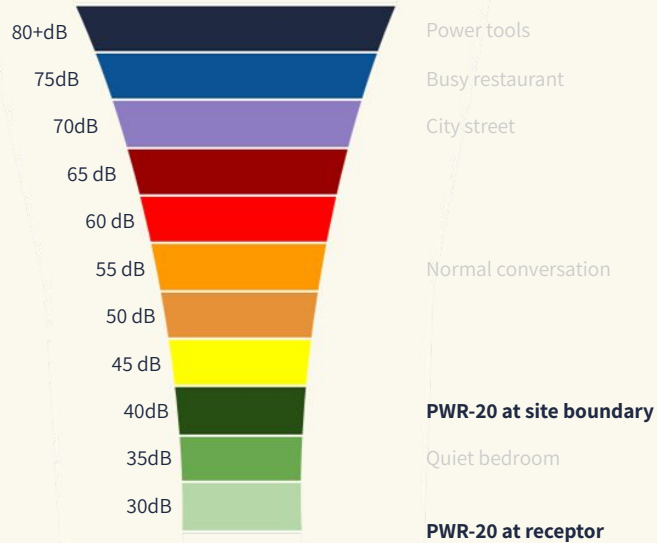
ENVIRONMENTAL IMPACT

Ecology



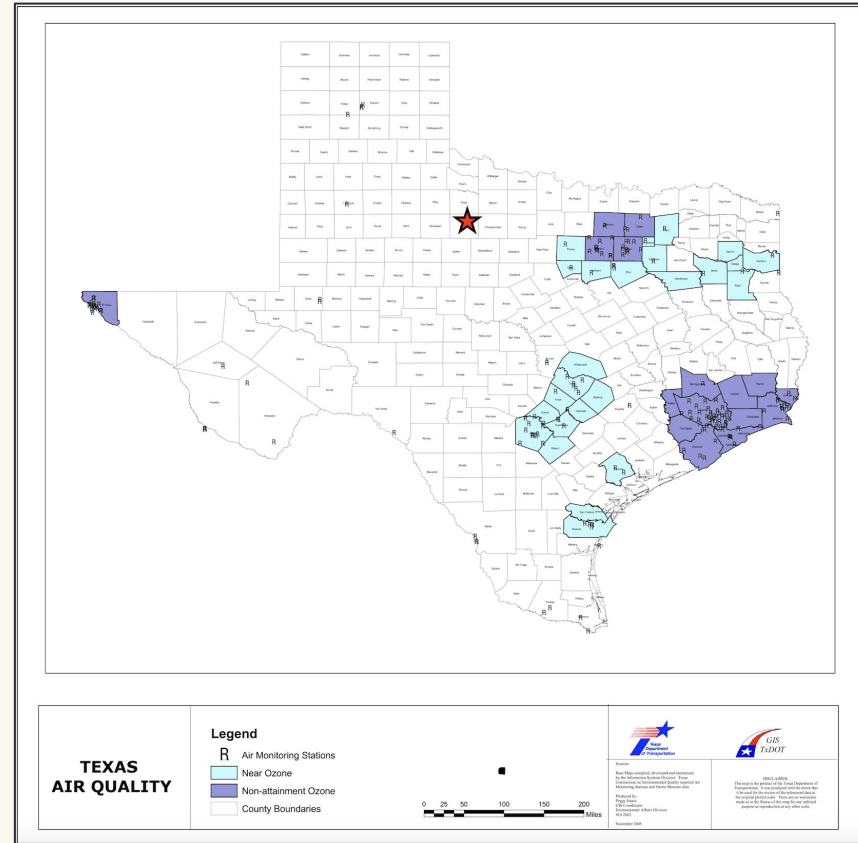
ENVIRONMENTAL IMPACT

Noise



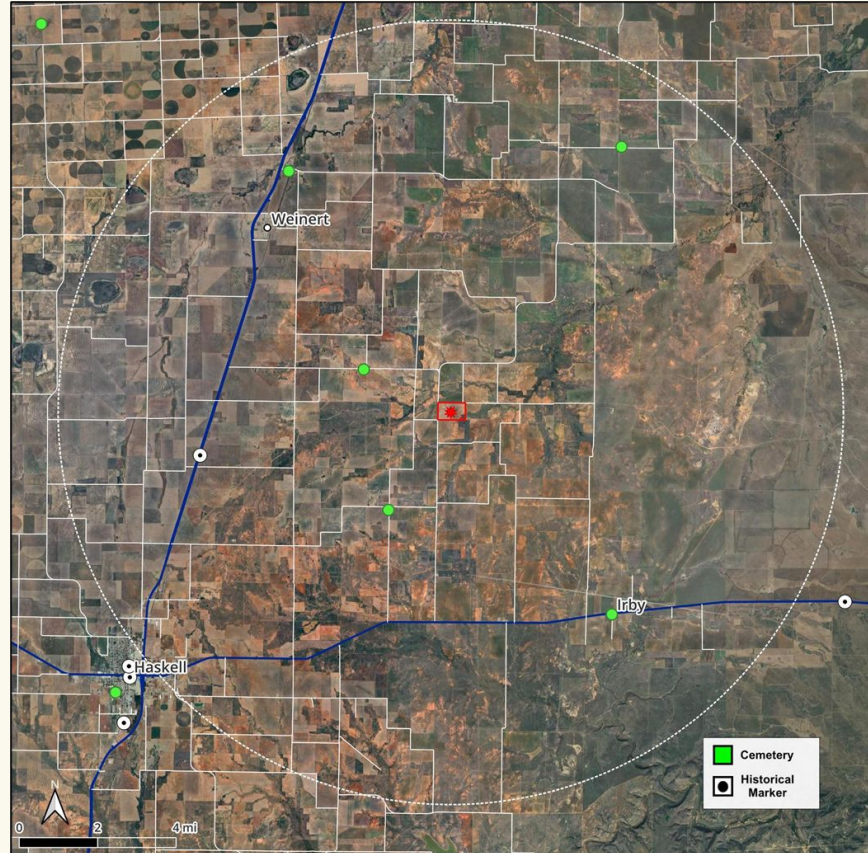
ENVIRONMENTAL IMPACT

Air Quality



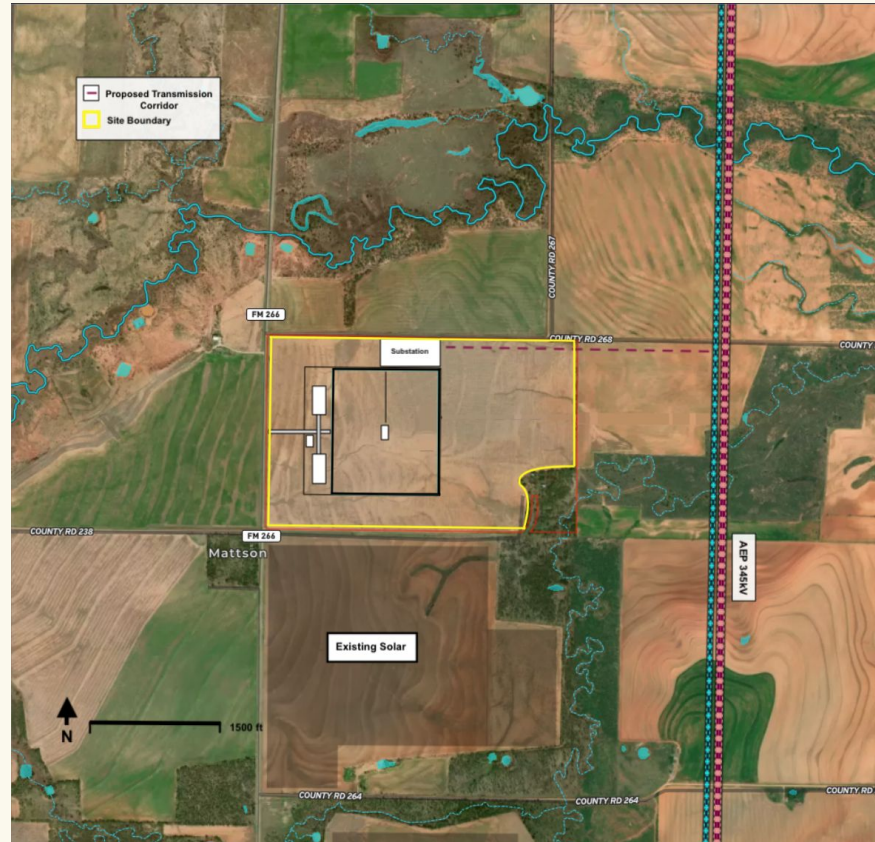
ENVIRONMENTAL IMPACT

Historical and Cultural Resources



ENVIRONMENTAL IMPACT

Transmission Corridor



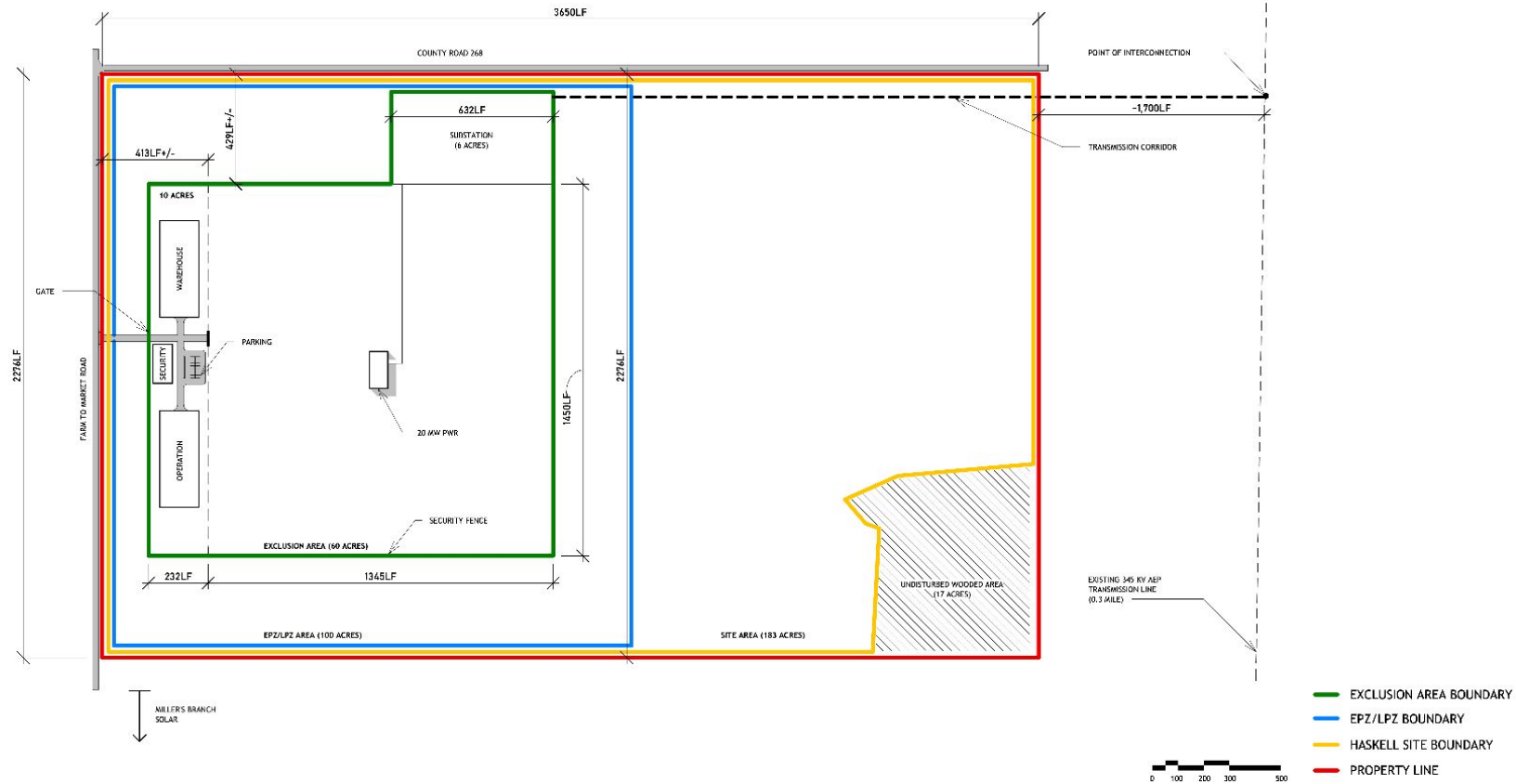
Demography



DEMOGRAPHY

Plant Parameter Envelope

Demography	PWR-20 Design Minimum	Haskell, TX Site-Specific
Exclusion Area Boundary (EAB)	164 ft	630 ft
Low Population Zone (LPZ) / Emergency Planning Zone (EPZ)	164 ft	960 ft
Population Center Distance	219 ft ¹ (1 mile) ²	43 mi (Abilene)



JURISDICTION: Haskell County
 PARCEL ID: R03017
 ADDRESS: 747 COUNTY ROAD 206,
 HASKELL, TX 79521-9319
 AREA: 200 ACRES (8,712,000 sqft)



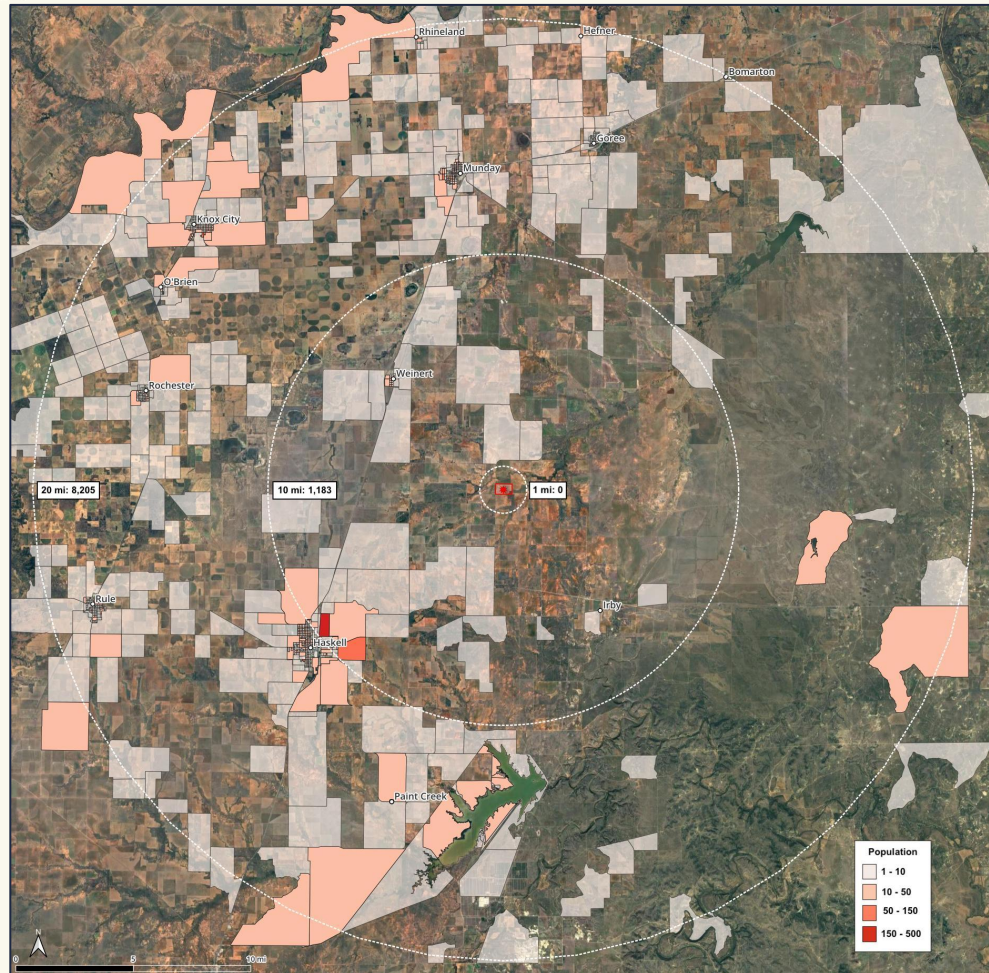
LAST ENERGY
 www.lastenergy.com +1 (202) 630-6611
 1923 Vermont Ave NW Washington, DC 20001

PLANT VERSION:	Building Name
INITIAL DATE:	Issue Date
DRAWN BY:	
CHECKED BY:	Checker
SCALE:	1" = 400'-0"
NO.	ISSUANCE
DATE	

HASKELL SITE
A106

DEMOGRAPHY

Population Density



Meteorology & Hydrology



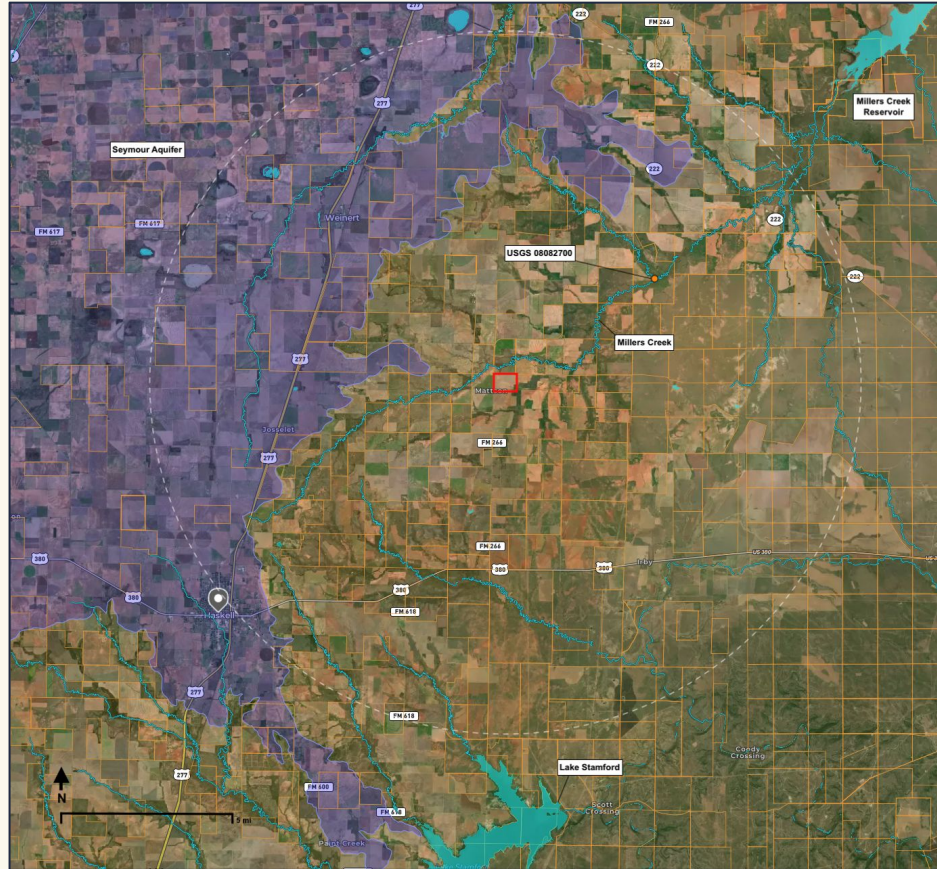
METEOROLOGY & HYDROLOGY

Plant Parameter Envelope

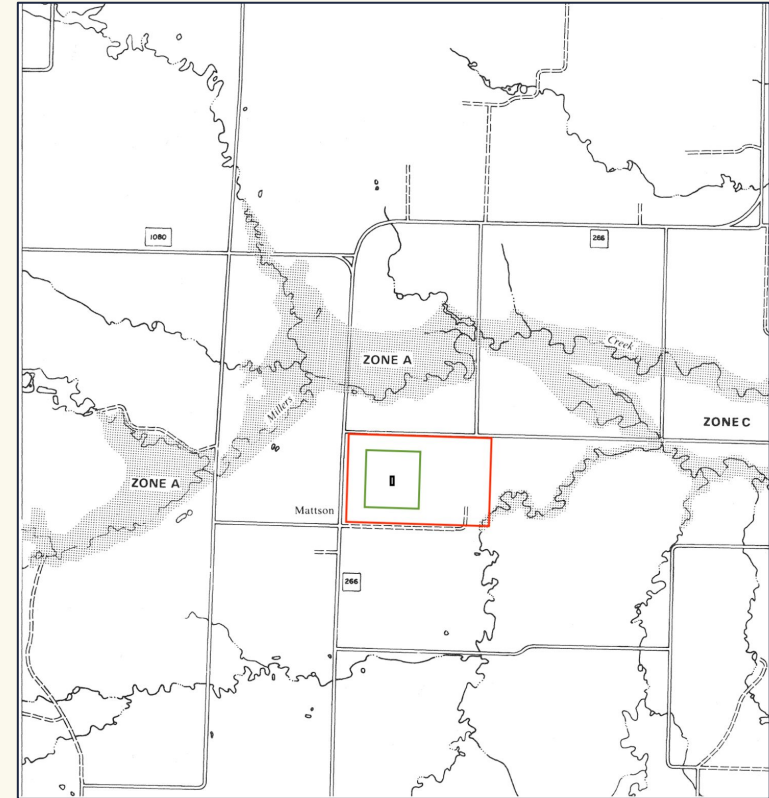
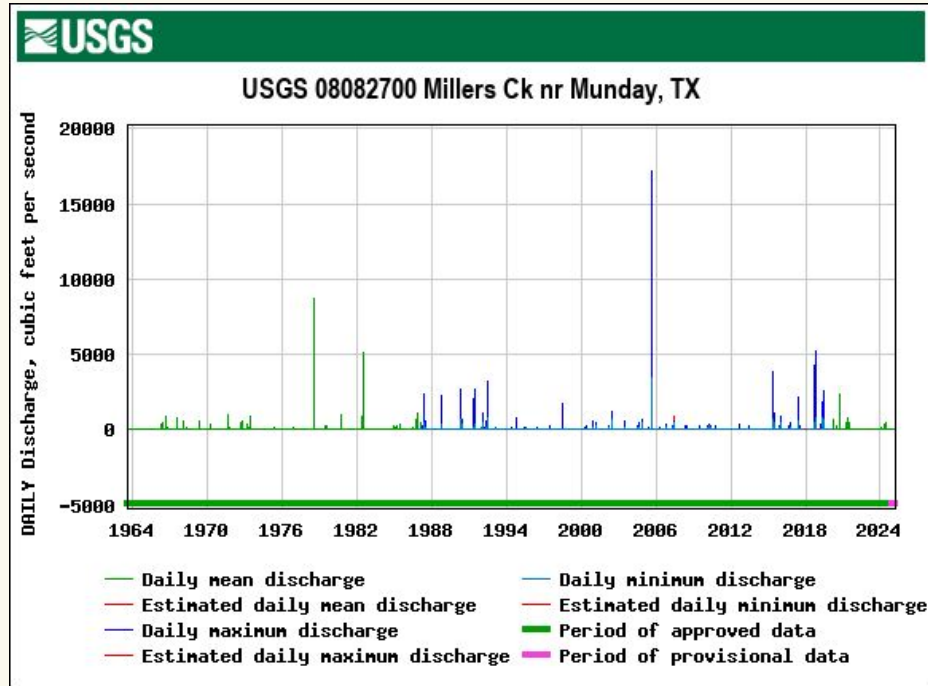
Meteorology	PWR-20 Bounding Value	Haskell, TX Site-Specific Values
Maximum Dry Bulb (0% humidity) Temperature	140°F	115°F
Maximum Rainfall Rate (inches per hour)	19 in	5 in
Inches of snowpack (48-hour maximum winter precipitation)	104 in	21 in ¹
Max wind speed (Tornado)	230 mph ²	230 mph ²

METEOROLOGY & HYDROLOGY

Water



Flooding



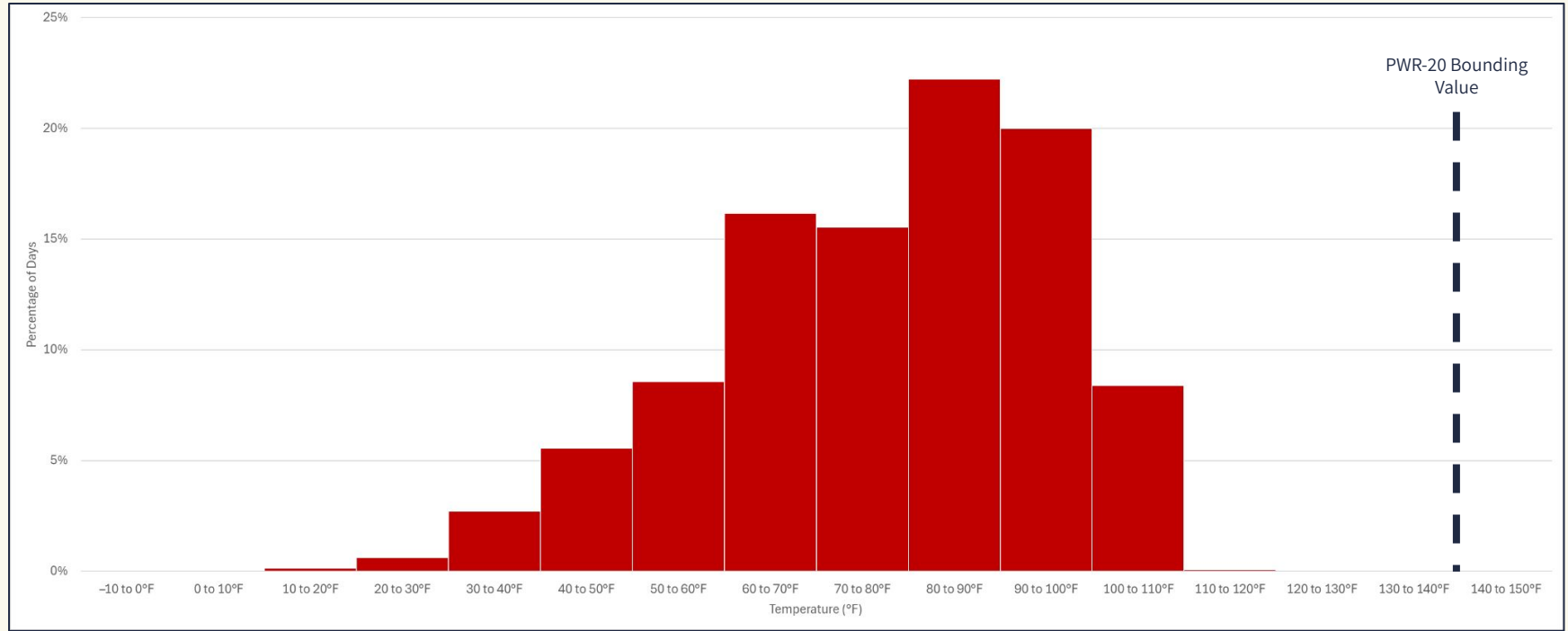
METEOROLOGY & HYDROLOGY

No
Wetlands



METEOROLOGY & HYDROLOGY

Daily High Temperatures, 1900-2025



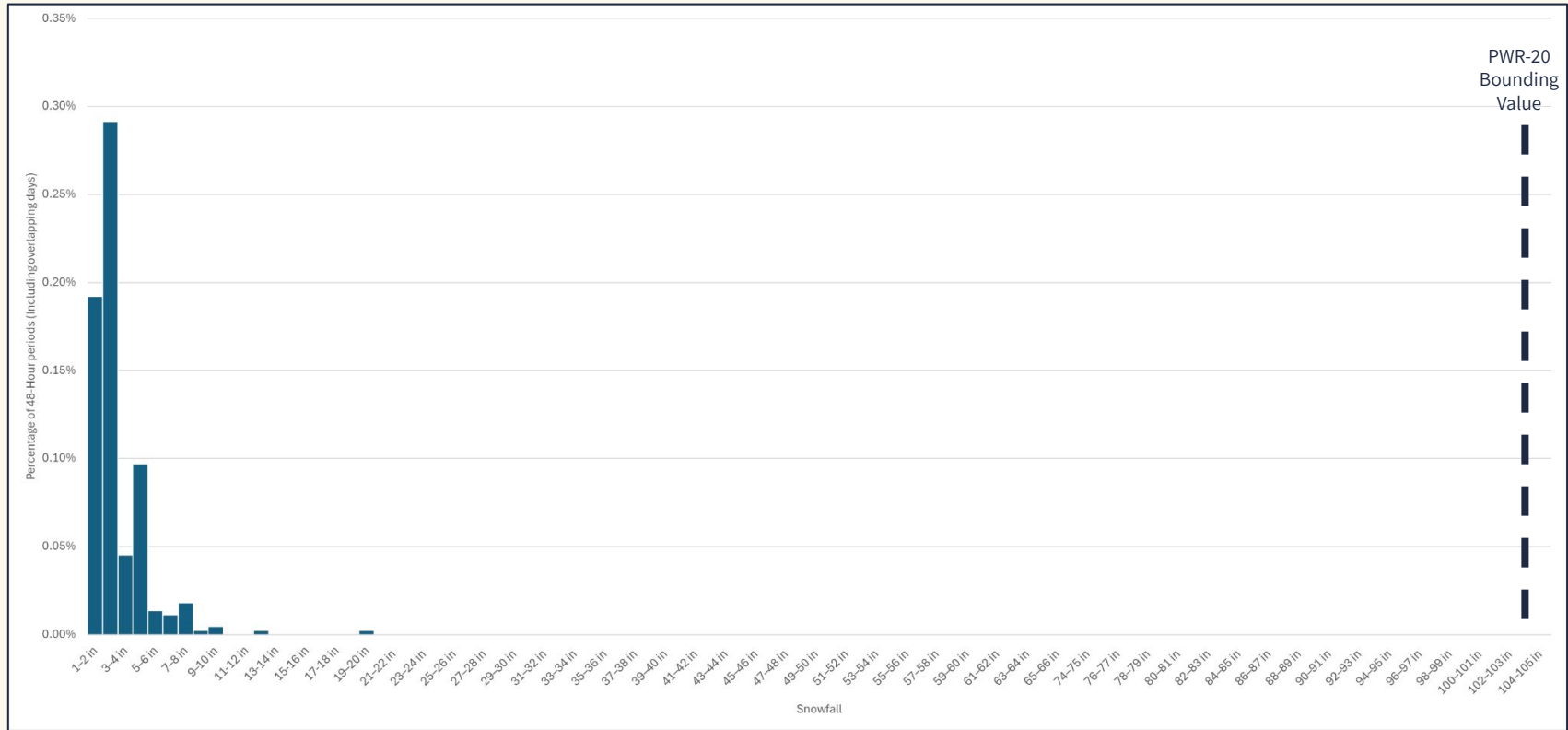
METEOROLOGY & HYDROLOGY

24-Hour Rainfall, 1900-2025



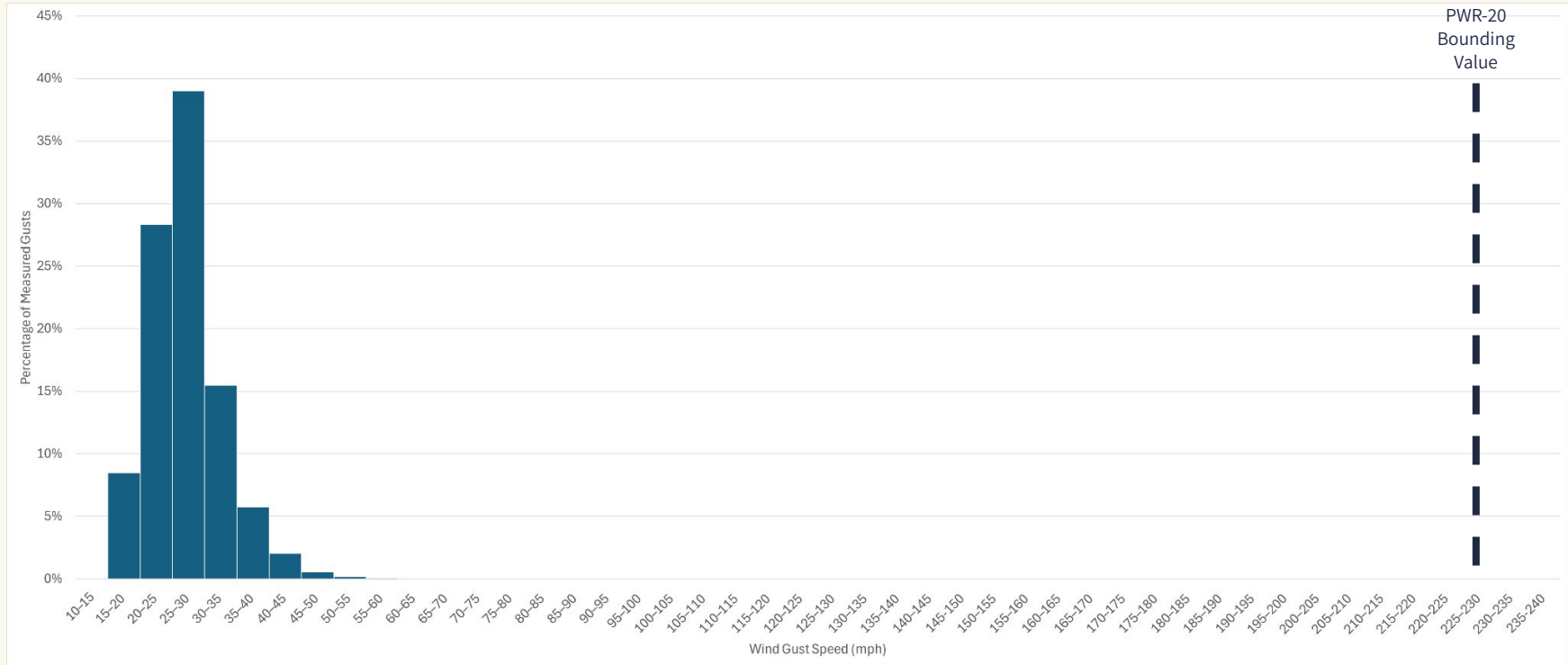
METEOROLOGY & HYDROLOGY

48-Hour Snowfall, 1900-2025



METEOROLOGY & HYDROLOGY

Wind gusts, 1965-2025



METEOROLOGY & HYDROLOGY

Stability Classes

Stability Class	PWR-20 Bounding Value	Clinch River Early Site Permit	Natura Resources Construction Permit
A	0%	3%	0%
B	0%	4%	0%
C	0%	6%	0%
D	0%	31%	0%
E	0%	23%	0%
F	100%	33%*	100%

Geology & Seismology

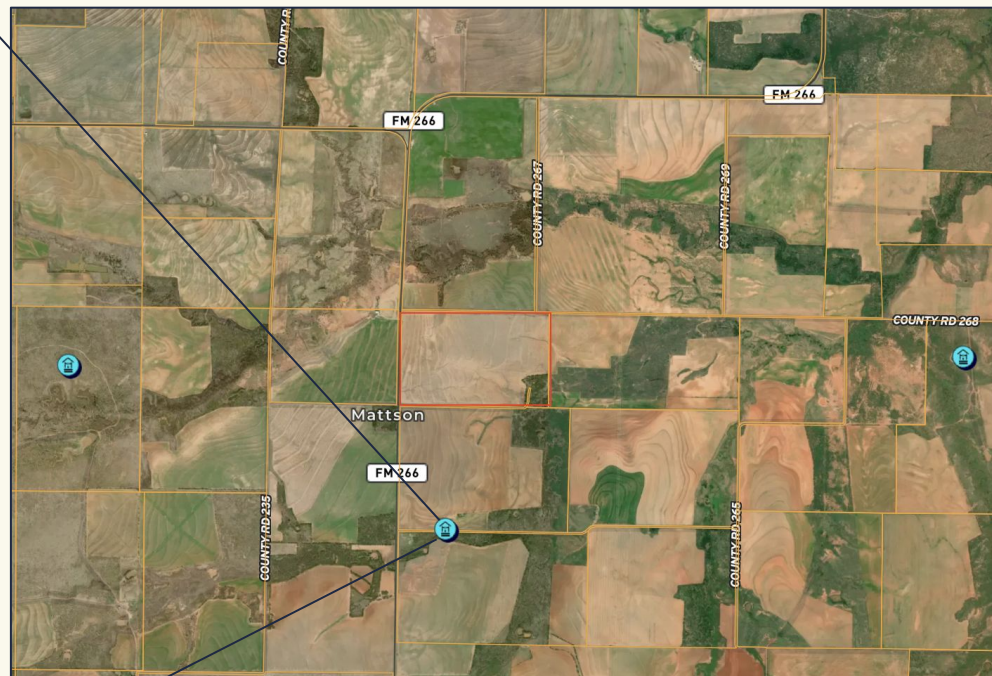
Plant Parameter Envelope

Geology & Seismicity	PWR-20 Bounding Value	Haskell, TX Site-Specific Values
Peak Ground Acceleration (PGA)	2.00 g	0.1 g
Minimum Bearing Capacity (Static)	1 ksf	5 ksf

GEOLOGY & SEISMOLOGY

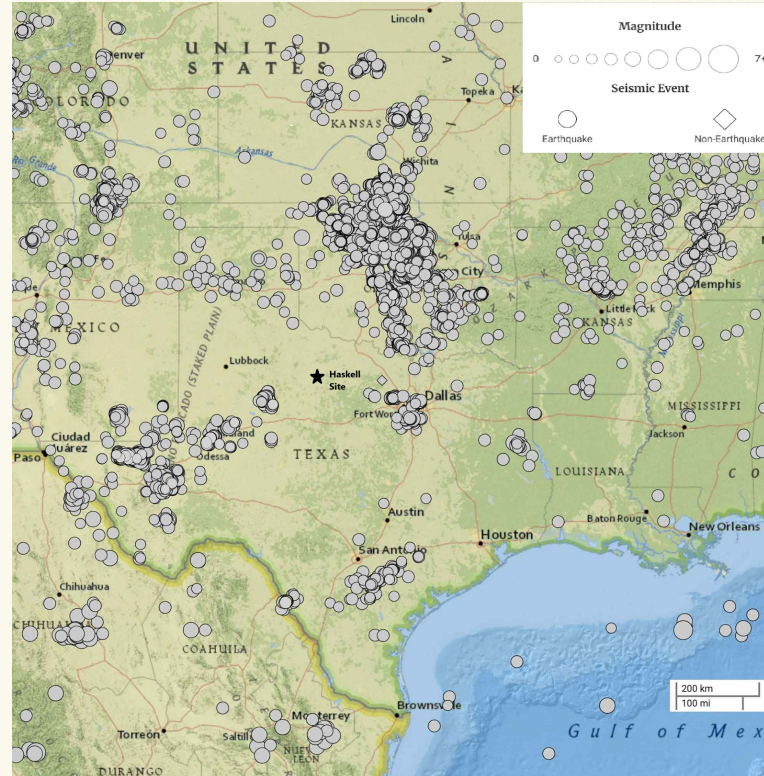
Local sub-structure

Depth (feet)	Lithology Description	Comments
0 - 5	Black and Brown Clay - Fine-grained, organic-rich clay.	Clay is typically soft and plastic, indicative of floodplain deposits.
5 - 22	Red Bed - Red sandstone or shale, rich in iron oxides, typical of Permian formation.	Well-sorted medium to fine-grained sandstone with visible red color from iron.
22 - 25	Blue Shell - Blue shale or limestone with clay content.	Shale or soft limestone with a bluish hue, possibly marine influence.
25 - 38	Red Bed - Red sandstone, typically finer-grained compared to upper layers. Groundwater Level.	Fine-grained sandstone, continues to show high iron oxide content.
38 - 42	Break in Red Bed - A transition or change in sedimentation, indicating different depositional conditions.	Change in deposition, which could reflect shifts in environmental conditions.
42 - 58	Red Bed - Red sandstone, typically finer-grained compared to upper layers.	A continuation of red sandstone, grain size similar to previous layers.
58 - 61	Break in Red Bed - Transition between layers with possible changes in depositional conditions.	Another change in deposition, indicative of a shift in environmental conditions.
61 - 84	Red Bed and Blue Shell - Mixed red sandstone and blue shale/limestone layers.	Combination of red sandstone and blue shale, indicating a shift in depositional environment.

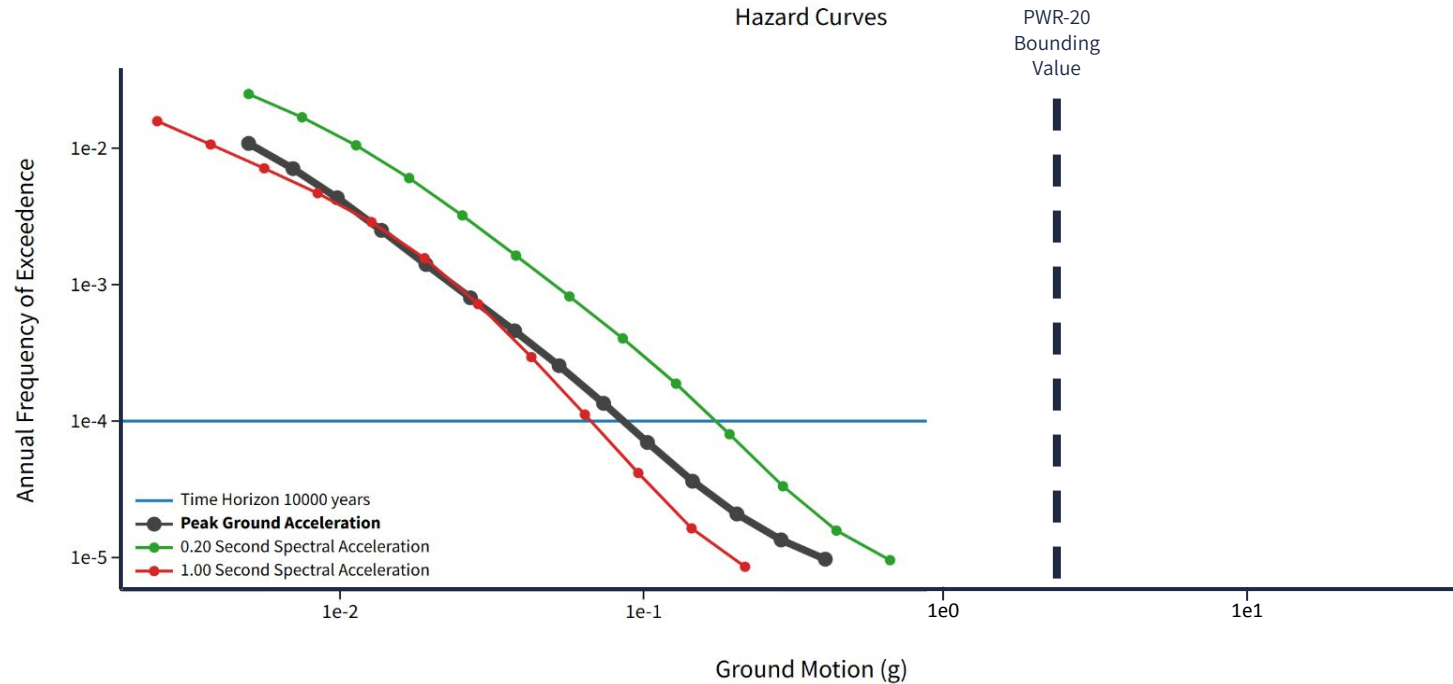


GEOLOGY & SEISMOLOGY

Causes and Locations of Earthquakes



Seismic Hazard



Conclusion



CONCLUSION

RESOURCE CATEGORY	IMPACT
Land use	SMALL
Water - Related	SMALL
Ecology	SMALL
Socioeconomics	SMALL
Historical & Cultural Resources	SMALL
Air Quality	SMALL
Non Radiological Health	SMALL
Radiological Health	SMALL
Nonradioactive Waste	SMALL
Postulated Accidents	SMALL