

INTERMOUNTAIN POWER PROJECT

Station Overview and History



April 20, 2022

Intermountain Power Agency

- Organized in 1977 by 23 Utah Municipalities
- Governed by 7-member Board of Directors
- Owns the Intermountain Power Project (IPP)

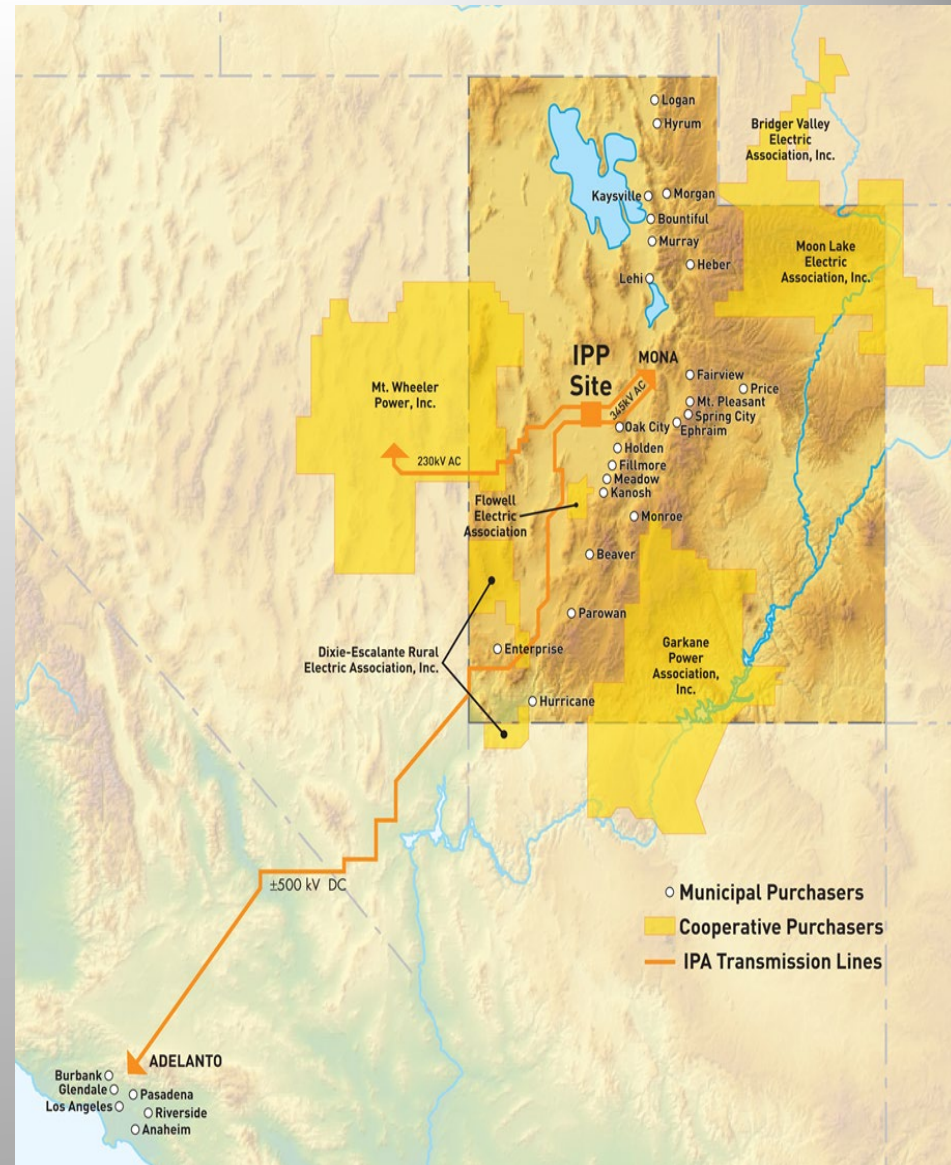
Intermountain Power Project

- Electrical generating and transmission properties and facilities
 - Generating capacity to serve 1.5 million households
 - Commenced commercial operations in 1986

ipautah.com

Project Participants

- Capacity Contracts to 2027
- Utah Purchasers
 - 23 IPA Members
 - 6 REA's
- 6 California Purchasers



IPP Plant History

Owner

Intermountain Power Agency

Operating Agent

LADWP

Construction

- Construction began 1981
- LADWP – Project Manager
- Black & Veatch - A/E
- Bechtel- Construction Manager
- 4500 Peak onsite work force
- 10,000 cumulative work force
- 60 prime contractors
- Union and Non-Union companies
- Unit 1 Commercial Oper 1986
- Unit 2 Commercial Oper 1987

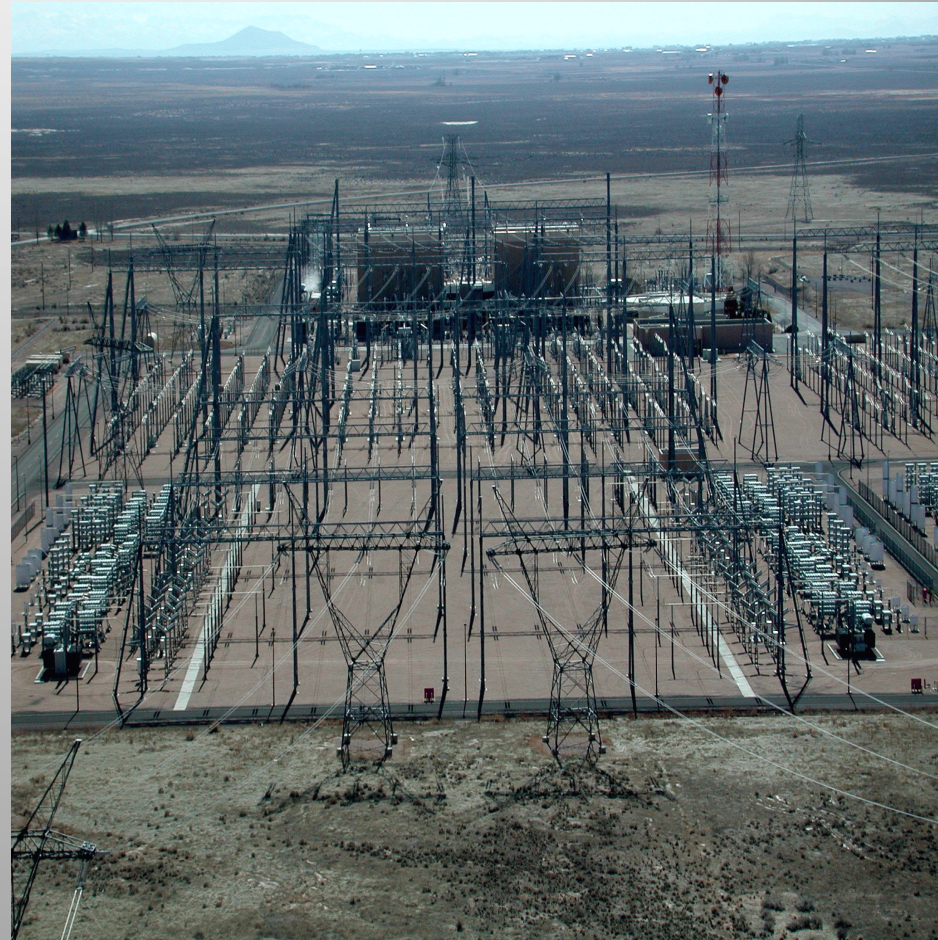


Intermountain Power Project

- Intermountain Generating Station (2 units)
- Electrical Switchyard/Converter Station (ICS-ACS)
- Transmission Systems (AC & DC)
- Railcar Facility Springville (own & maintain 4 unit trains with 431 cars)
- Utah - water rights for 4 units, rent unused to agriculture
- Site - zero discharge, with onsite disposal and storage
- Fly Ash Sales to contractor (Boral)

Transmission System

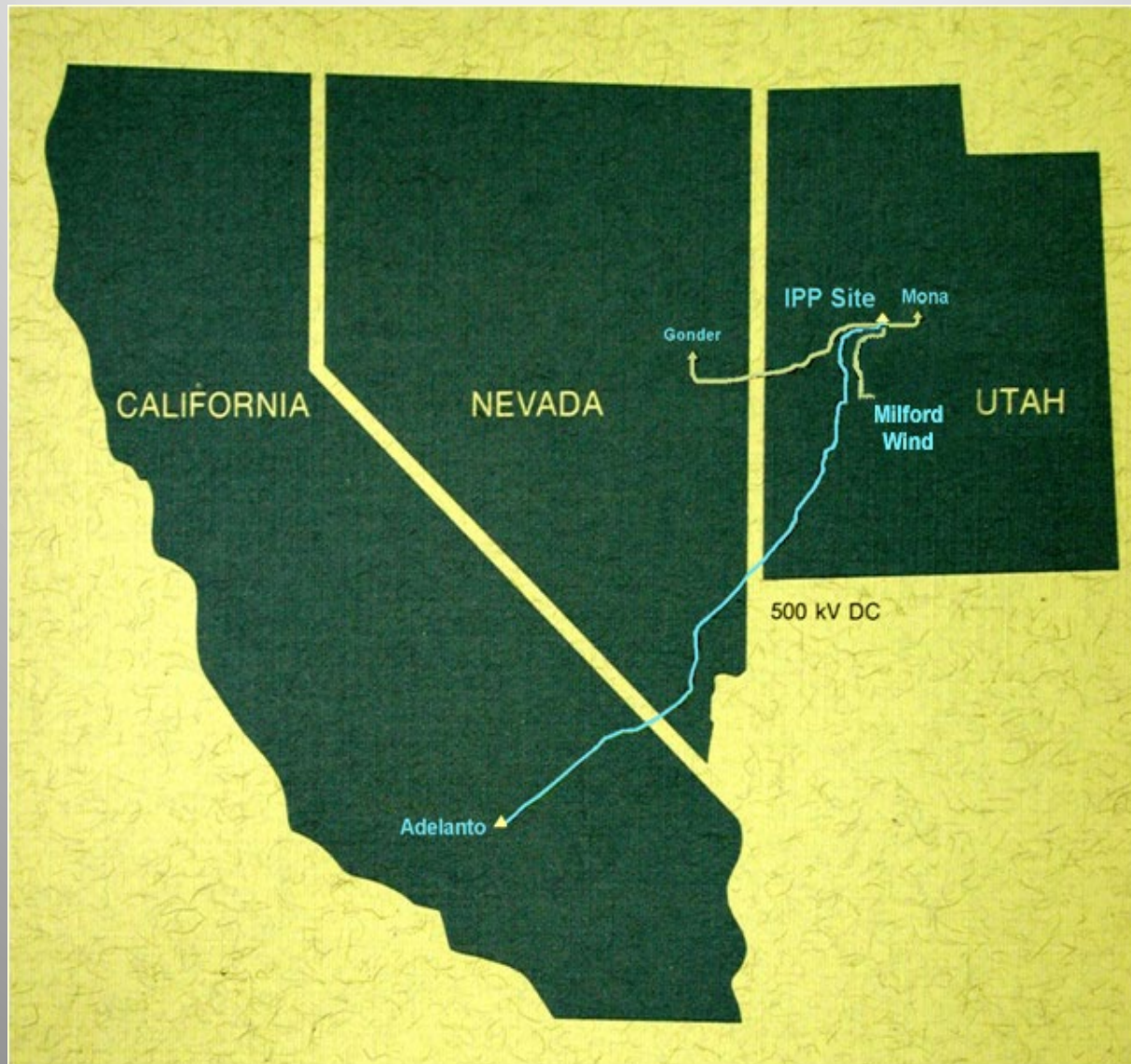
- AC Switchyard
- 345 KV AC Transmission Line to Mona, UT – RM Power, 50 miles
- 230 KV AC Transmission Line to Gonder, NV – NV Energy, 144 miles
- 345 KV AC Transmission Line to Milford Wind Farm, 80 miles
- AC to DC conversion with 2400 MW DC line to California, 490 miles



Intermountain Power



Intermountain Power Transmission





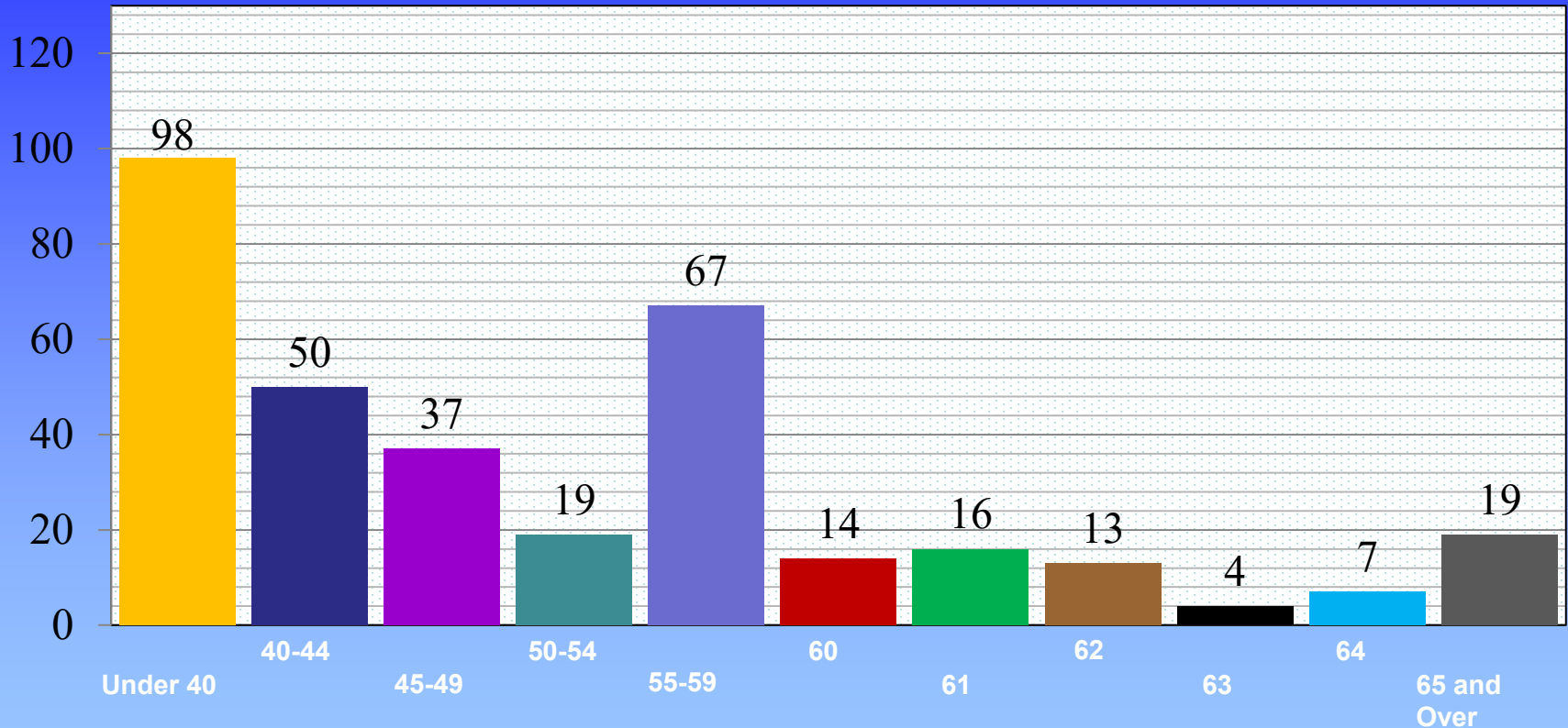
Plant Operation & Maintenance

Intermountain Power Service Corporation (IPSC)

- Self-Contained Contract Service Organization
- 340 Employees
- Operations, Safety-Training,
- Maintenance, Railcar, and Warehouse
- Engineering, Environmental, Computer Services
- Convertor Station and Switchyard
- Human Resource, Accounting, and Purchasing

Intermountain Power Service Corporation

Number of Fulltime Employees 344



Assumed Retirement Age: 62

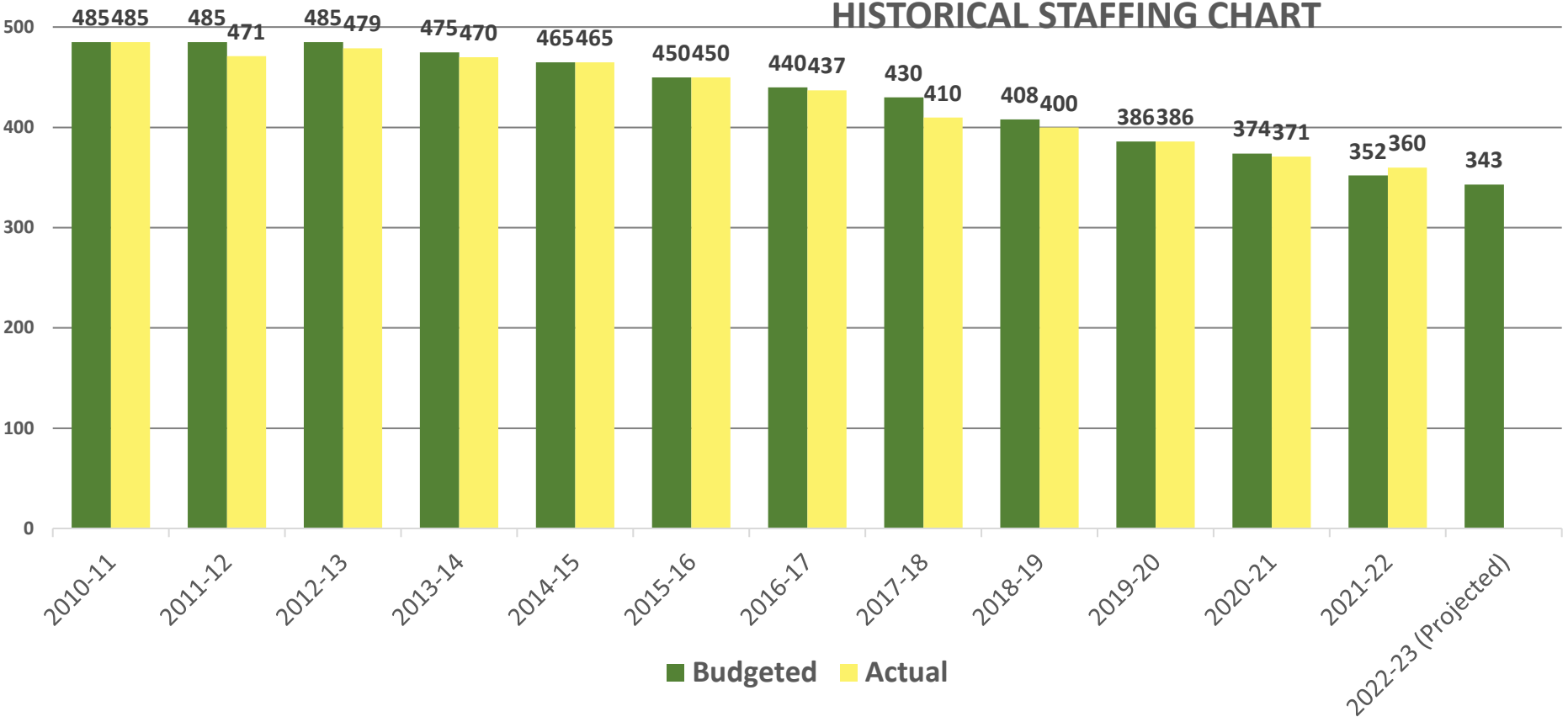
Number of Employees expected to retire in 4 years: 106

Age of
Employees

As of December 1, 2021

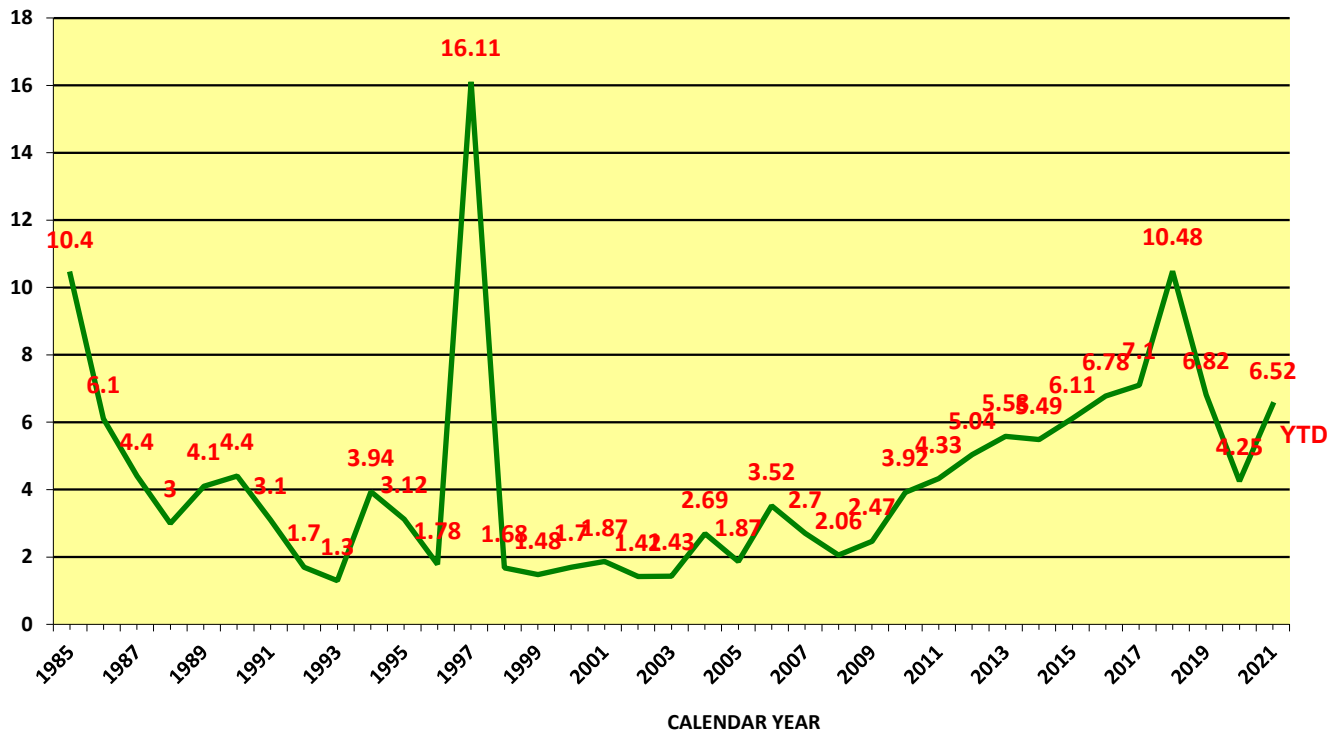
INTERMOUNTAIN POWER SERVICE CORPORATION

HISTORICAL STAFFING CHART



INTERMOUNTAIN POWER SERVICE CORPORATION

TERMINATION/TURNOVER REPORT

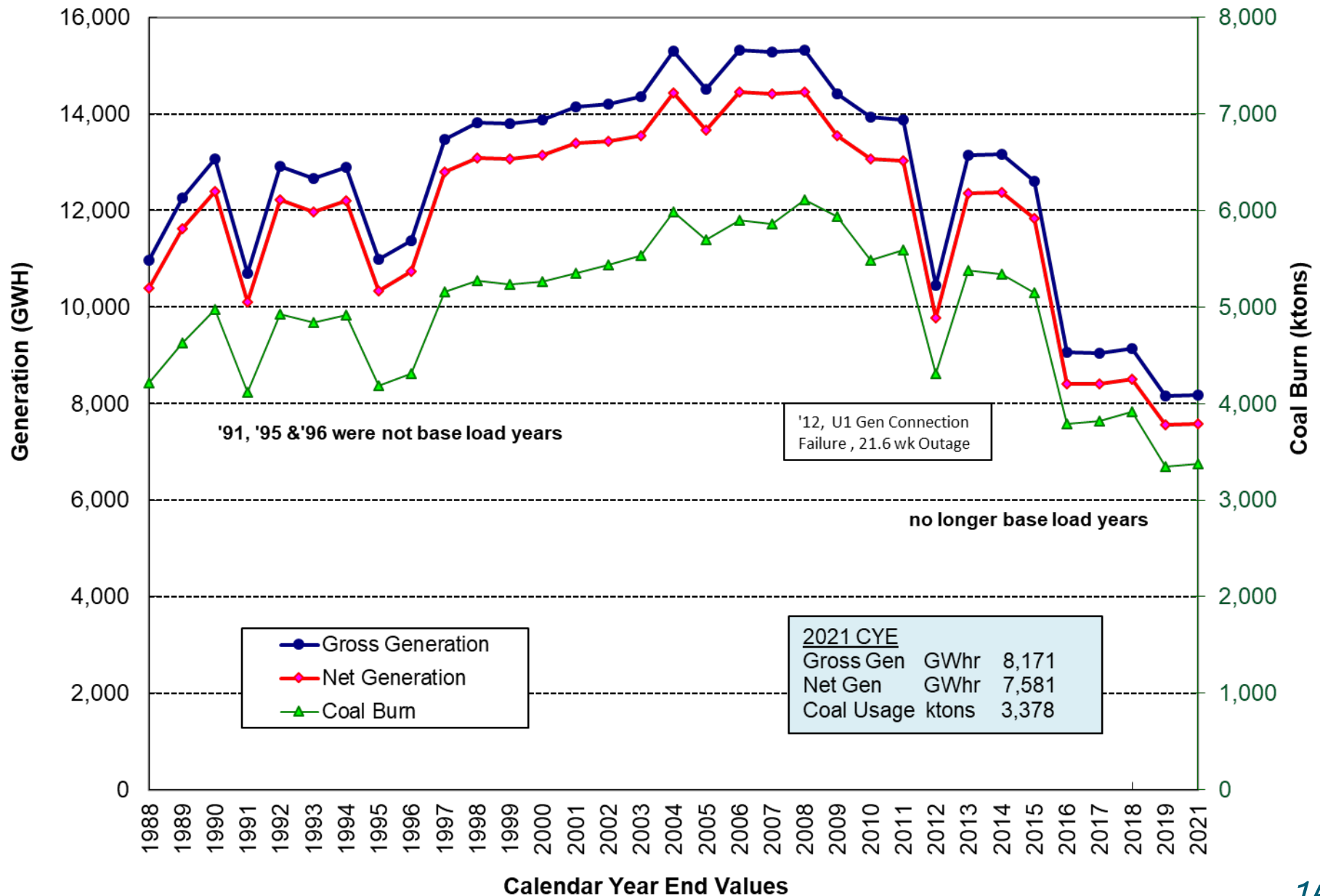


OPERATIONAL STATISTICS

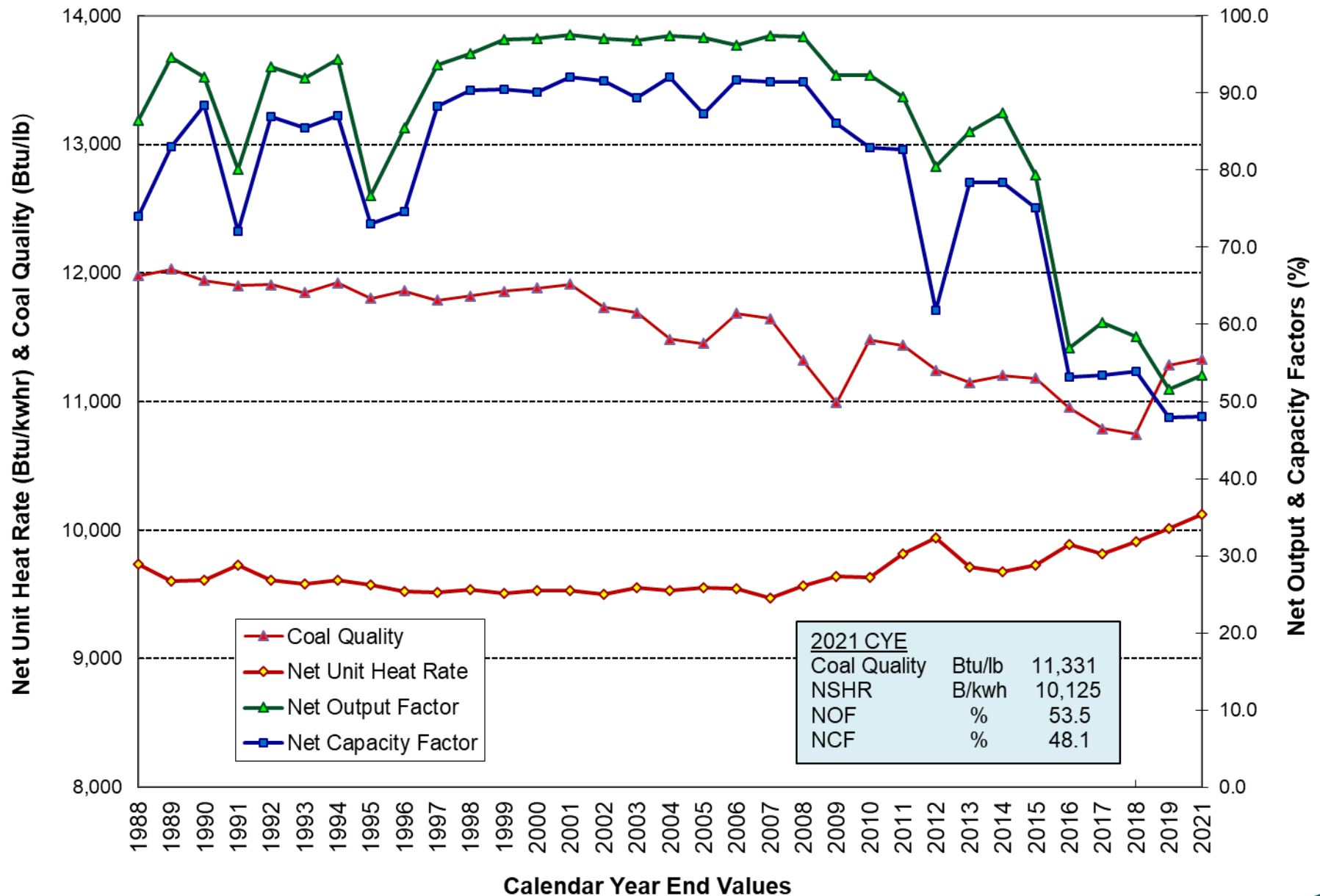
IGF Production level comparison (34yr), 2021 Calendar Year

• Net Generation	GWhr	7,581	32 nd of 34
• Coal Usage	ktons	3,378	32 nd
• Coal Quality	Btu/lb	11,331	23 rd
• Net Station Heat Rate	B/kwh	10,125	33 rd
•			
• Shutdowns	#	10	13 th (tied)
• Availability	%	90.1	27 th
• Equiv Availability	%	89.7	26 th
• Forced Out Rate	%	1.08	24 th
• Equiv Forced Out Rate	%	1.46	25 th
• Net Capacity Factor	%	48.1	32 th
• Net Output Factor	%	53.5	32 th

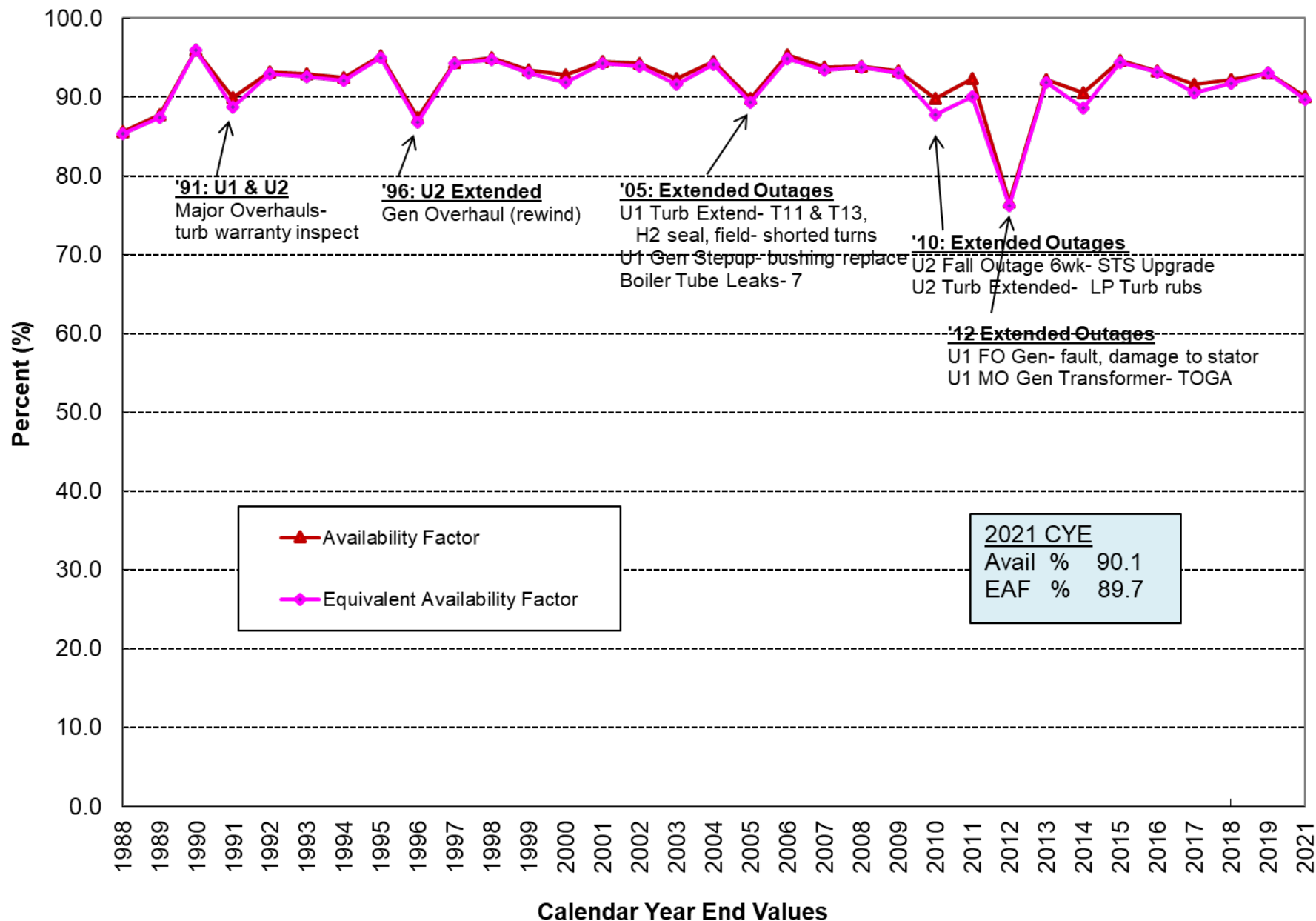
Historical IGS Generation & Coal Burn



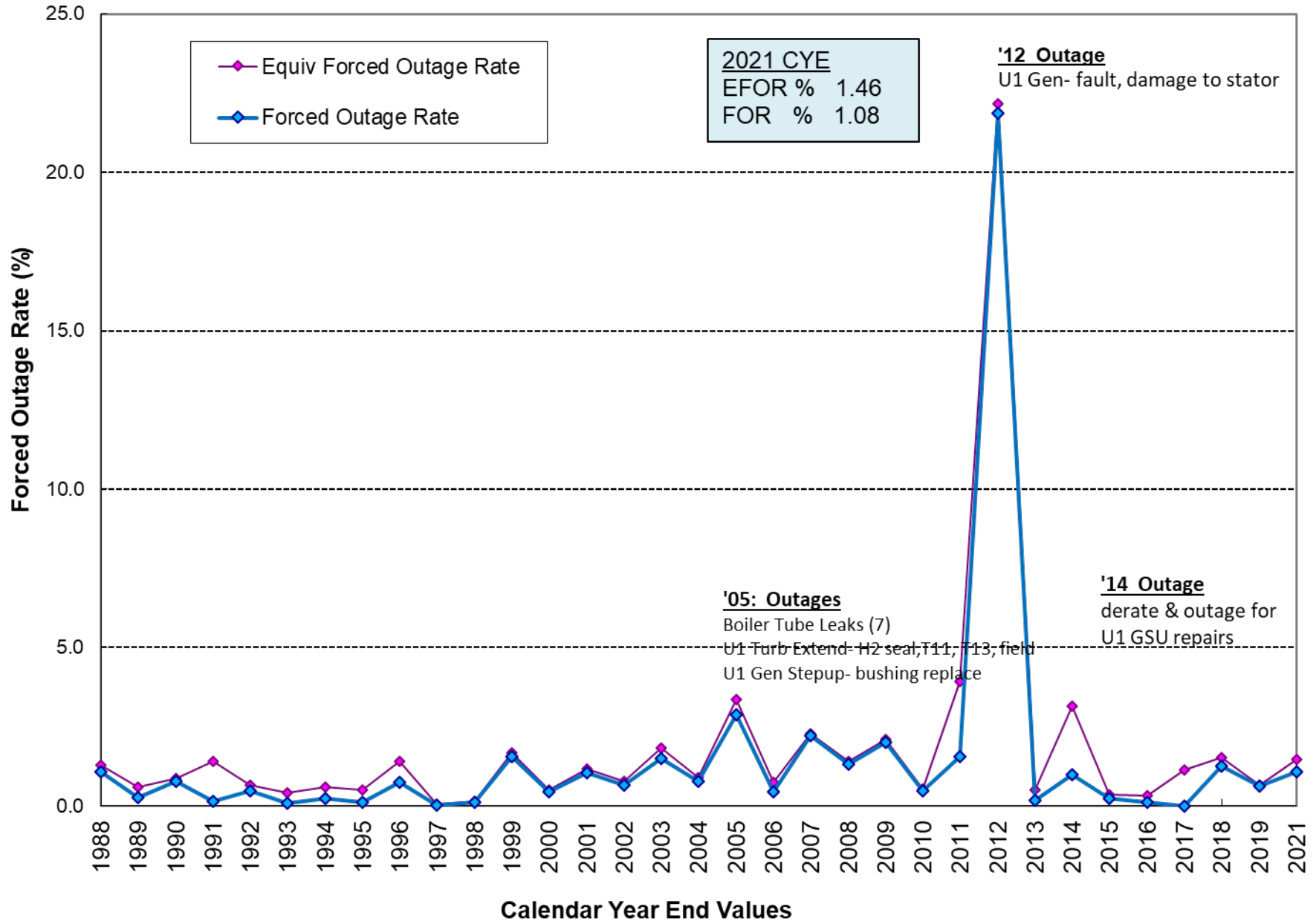
Historical IGS Heat Rate, Coal Quality, Net Output & Capacity Factors



Historical IGS Availability & Equiv Availability Factors

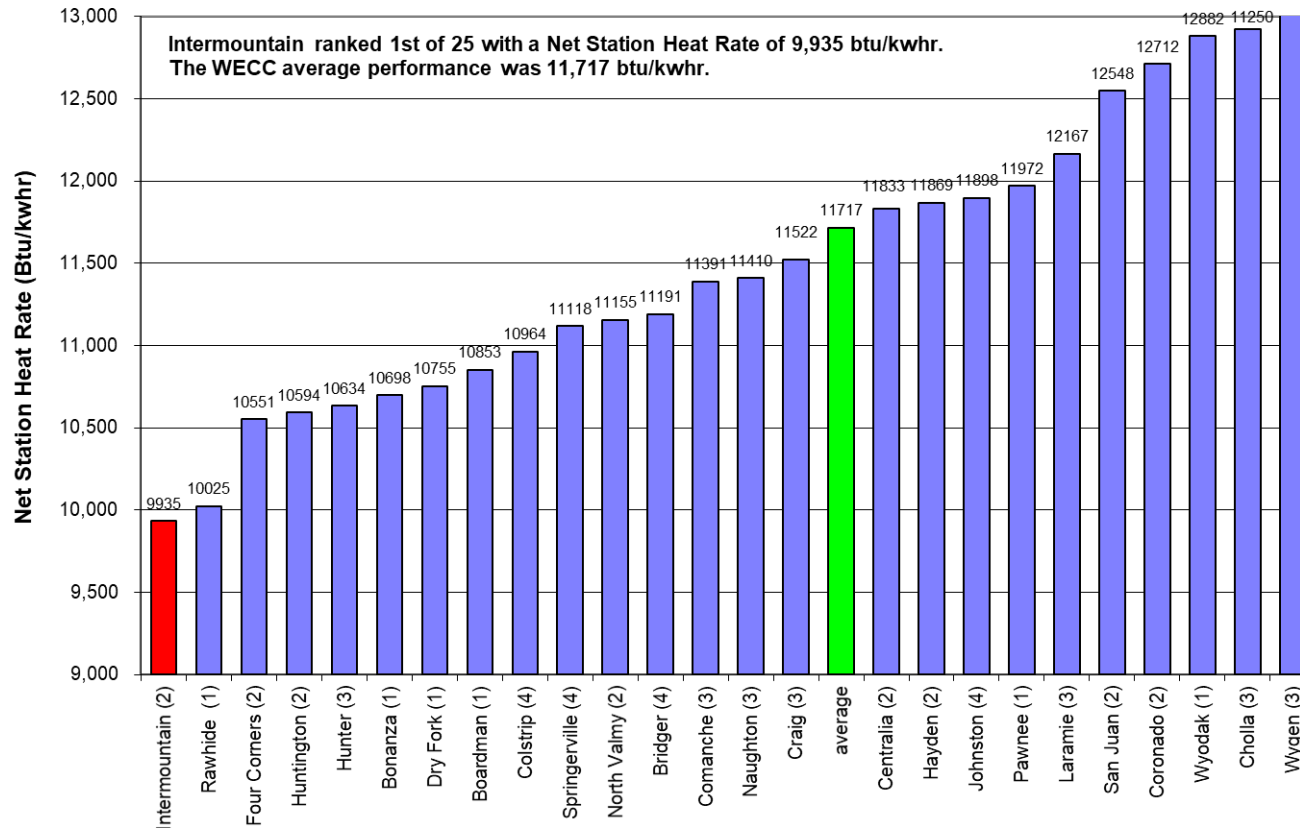


Historical IGS Forced & Equiv Forced Outage Rates



STATION HEAT RATE COMPARISON

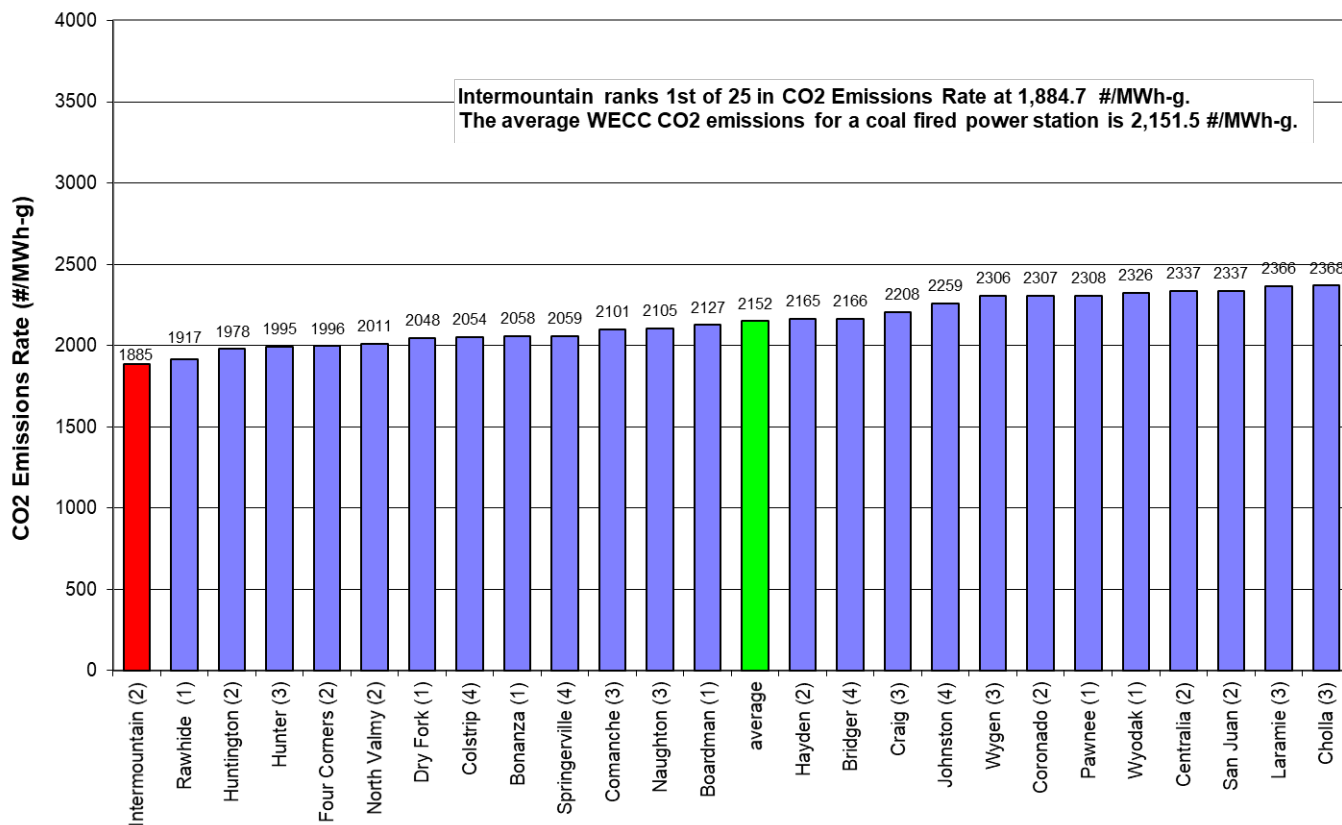
Data ranked by NSHR, Top 25 Coal Fired Plants from the Western Region (NERC- WECC)



Reference: Data from Dept of Energy, EIA-906/920/923 "Power Plant Report", for calendar year 2020
<http://www.eia.gov/electricity/data/eia923/index.html>

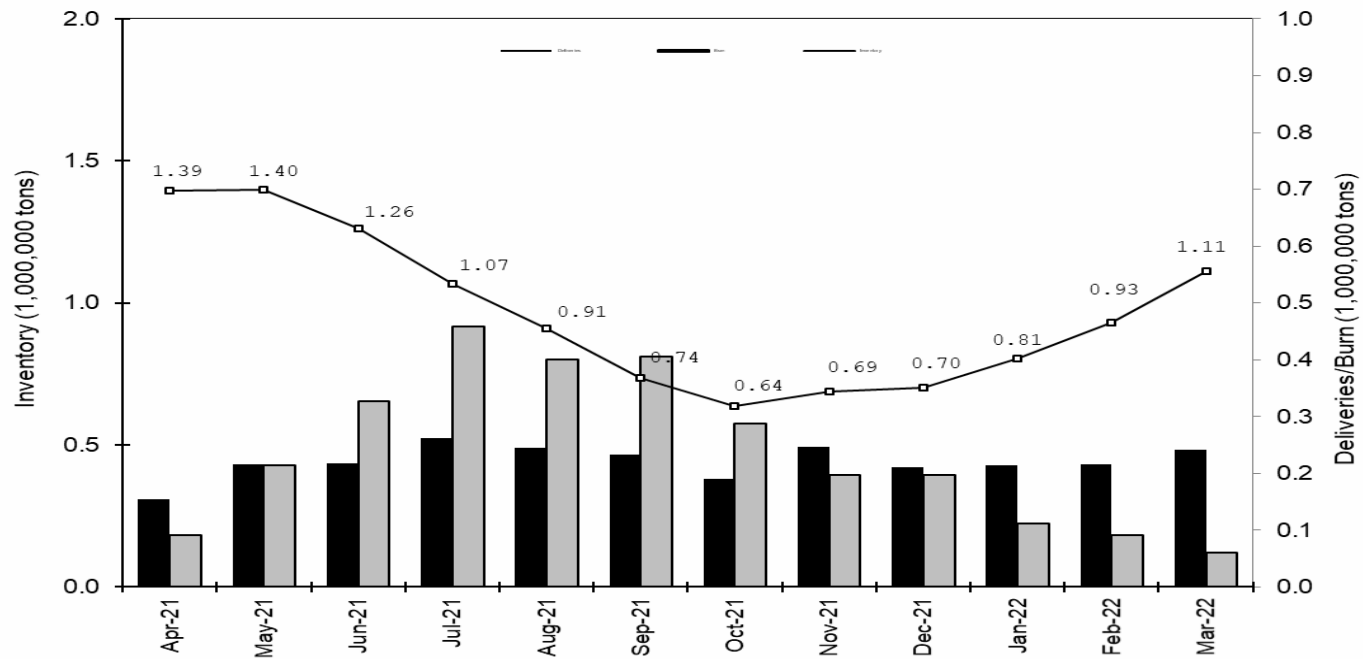
CO2 EMISSIONS RATE COMPARISON

Data ranked by CO2 Emissions Rate- #/MWh-g, for the Top 25 Coal Plants in Western Region (NERC- WECC)

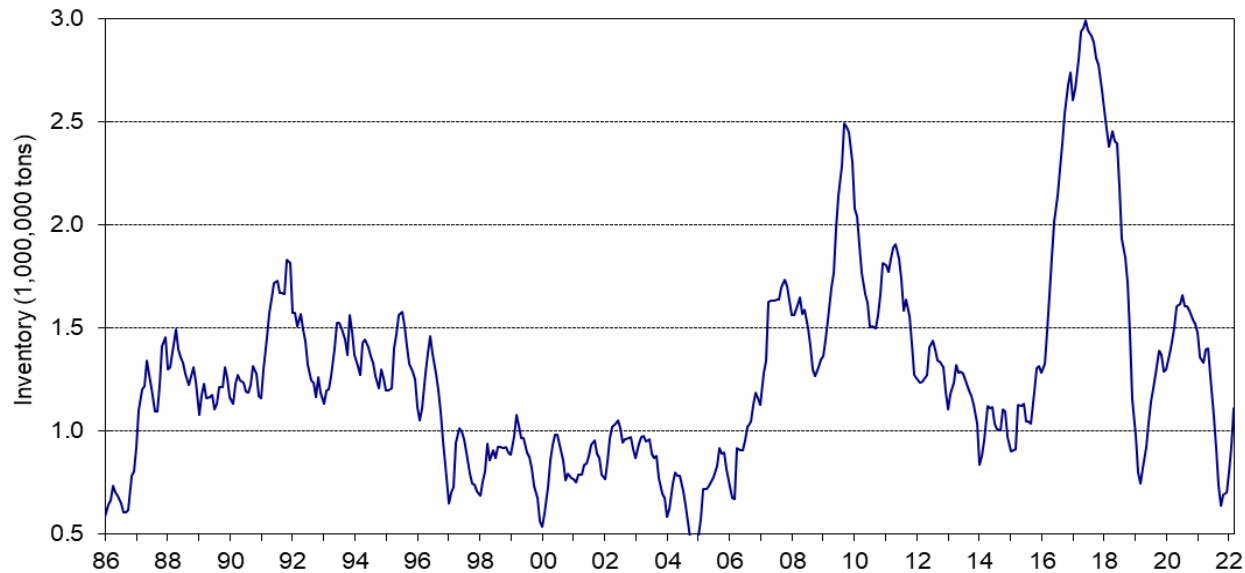


Reference: Data from EPA Air Markets Program Data, for calendar year 2020
<http://ampd.epa.gov/ampd/>

12 MONTH COAL INVENTORY



Historical Coal Inventory

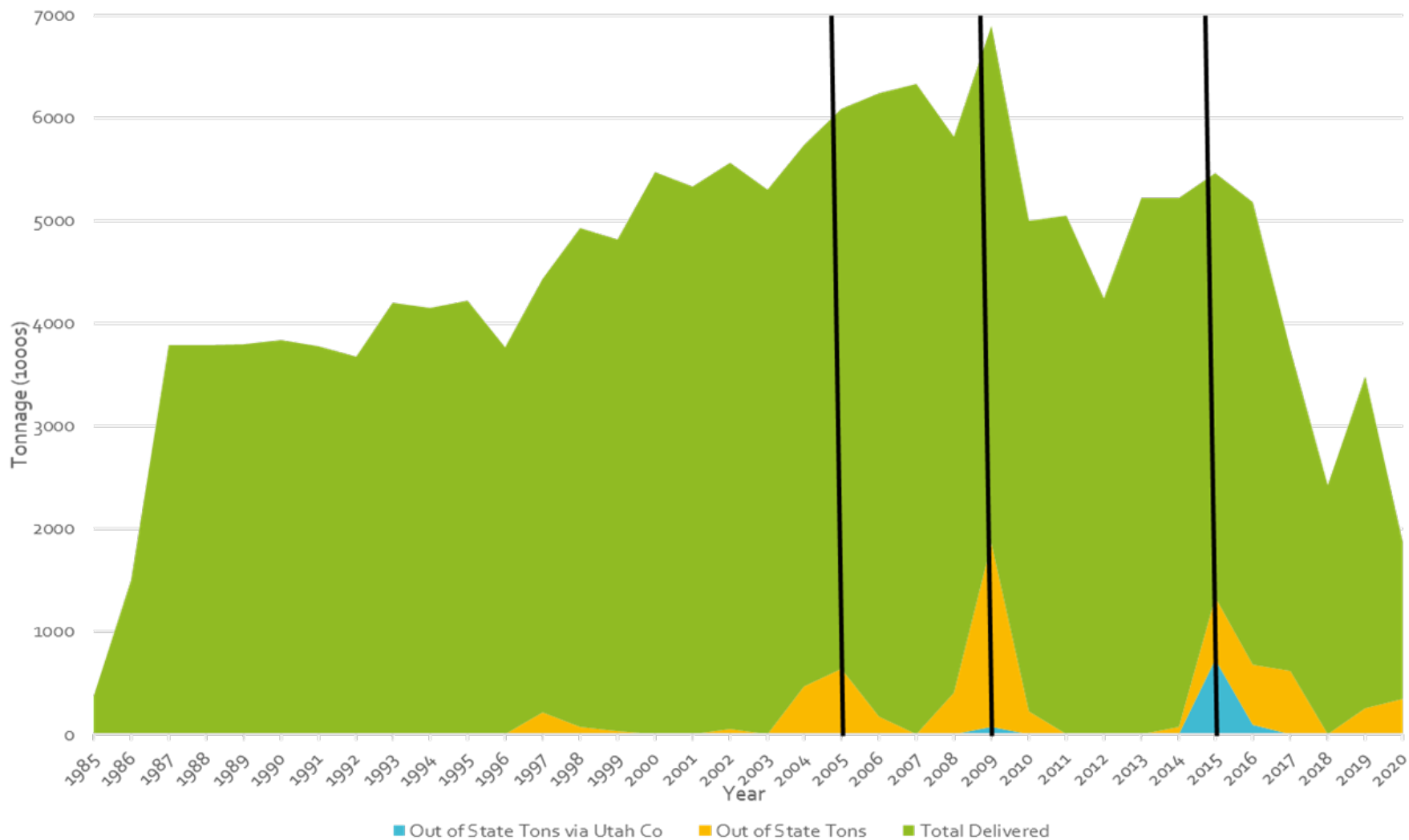


Coal Pile 2022



Fuel Supply Sourcing

IPP Delivered Tonnage



Local Economic Benefit

Property Taxes, paid in calendar year 2020:

• Millard School District	\$4,667,015
• Millard County General Fund	\$2,244,516
• County Assessing & Collecting	\$254,161
• State Assessment/Collection Fees	\$8,310
• Fire District	\$220,920
• Mosquito Abatement	\$392,530
• Other	\$59
• Total	\$7,787,511

This was approximately **27% of all taxes** collected in Millard County

Payroll: IPSC **employed 332** residents of Millard County who had a gross **payroll of \$39,589,073** in 2020. The total gross payroll for the **348 employees** and the **25 retirees** in 2020 was **\$45,747,573**.

Economic Benefit

Business and Commerce: For the calendar year 2020, IPSC purchased \$4,271,916 worth of goods and services from individuals, businesses, and vendors located in Millard County.

From inception:

- \$6 billion paid to Utah coal suppliers

- \$1.5 billion paid for transportation services

- \$250 million in royalties paid to Utah public entities

Annual indirect Utah economic multiplier effect

- \$866 million in economic activity to the State

- \$222 million in household earnings

•Net Generation

412,316,775,000 KWhr

if electricity worth \$0.05/kwhr,
valued at

\$20,615,838,750 (\$20.6 B)

• Coal Usage

172,894,506 tons

if coal worth 40 \$/ton,
valued at

\$6,915,780,240 (\$6.9 B)

IPP Challenges to Continued Coal Operation

- EPA Clean Air Act Section 114 Audit
- EPA CCR Rule published April 18, 2015
- California Legislation Limiting GHG
- California Carbon Tax
- Increasing Renewable Portfolio Standard (RPS)
- Environmental Regulation Uncertainty
- Low Price of Natural Gas
- Contracts expire 2027, loss of customers

Retirement of Coal Units

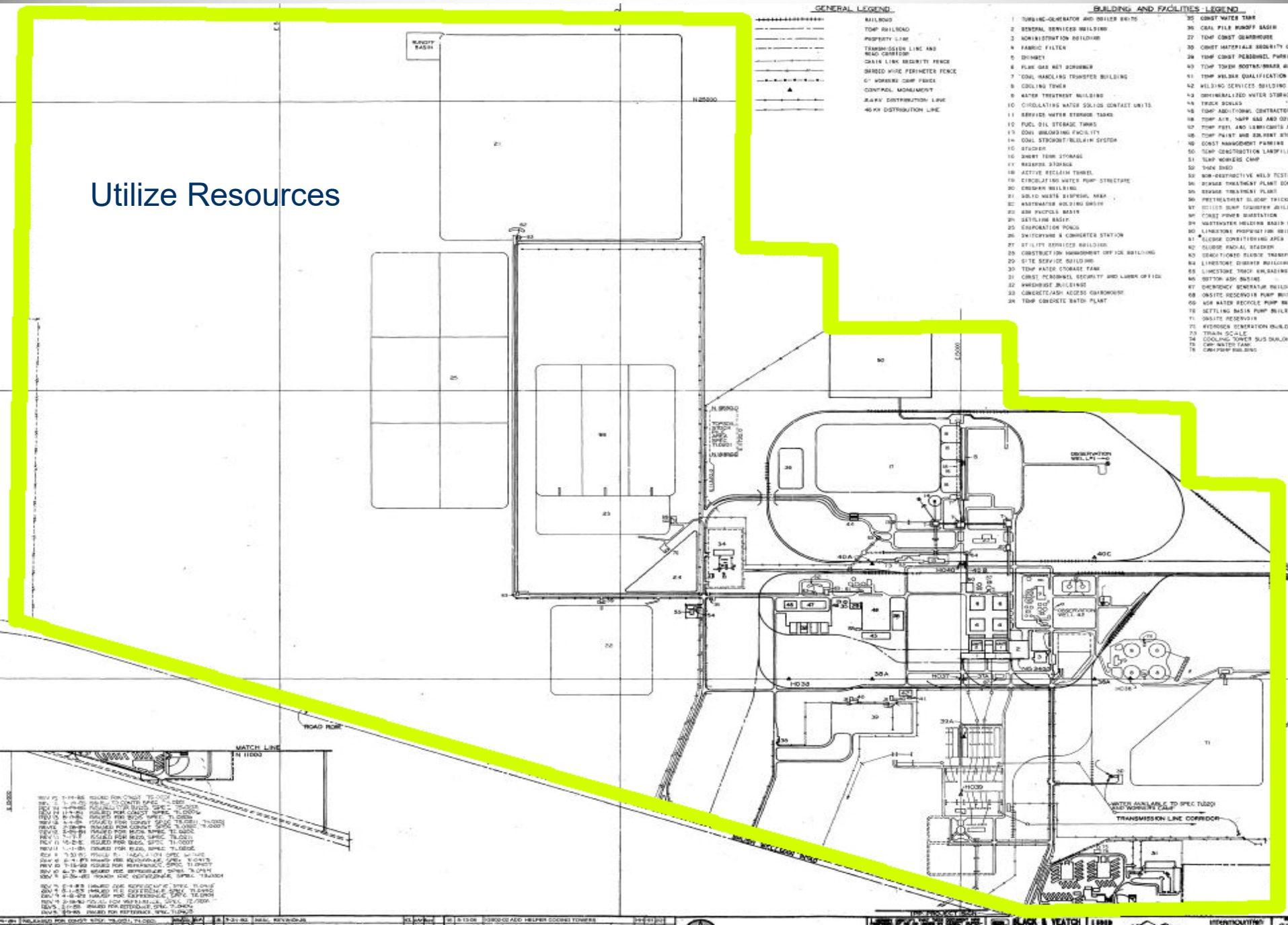
- **Loss of Existing Customers.** Unable to renew CA contracts on expiration 2027
- **Weak Market for Coal-fueled Electricity.** Low cost of gas & renewable, shifting resources
- **Environmental Regulatory Issues.** Additional expense for compliance past 2027
- **Announced May 23, 2017 at IPP** - owners of the Intermountain Power Project (“IPP”) announced today that they will cease electricity generation using coal in 2025. Based upon the lack of viable options for the continued operation the decision has been made to remove the coal facilities from service upon the Commercial Operation date of the gas plant. (Planned for July 2025)
- “We are saddened to announce this decision, but factors beyond our control make continued operation of the coal units unfeasible after their current power purchase agreements expire,” said Ted Olson, “We are mindful of the substantial economic contribution IPP makes to rural Utah and we will vigorously continue efforts we began years ago to diversify and provide project benefits for its employees and surrounding communities for as long as feasible.”

IPP is a great asset

- Location, desirable air shed, close proximity to pipelines, railroads, highways
 - Great infrastructure and resources onsite. Water, rail, power,
 - High quality, trained, experienced employees
 - Transmission system, connected to RMP, NV energy, Southern California
 - Economic engine for the local area and the State of Utah
 - High level of interest in preserving and utilizing the asset
-
- Change is coming for community and IPSC
 - Aging workforce, retirements, reduction in force
 - Needs assessment, identify future labor skills
 - Opportunities & career development
 - Work force transition
 - Management succession
 - IPSC can handle it

IPP Boundary

Utilize Resources





IPP *Renewed*➔

- Renewal Contracts to 2077
- Over \$2.5 billion investment for construction of new natural gas-fueled electricity generating units and upgrades to transmission facilities
- Facilitate development of hydrogen production and long-term storage capabilities attracting further development

Future



New Facilities

- Natural Gas Combined Cycle Power Plant (NGCC)
 - Two Generation Units 1 X 1 (1 gas turbine, 1 HRSG, 1 steam turbine)
 - 420 MWG each
 - Online by July 2025 – burning 30% hydrogen

- New DC Converter Stations
 - 2400 MW capacity
 - New Stations at Adelanto and Intermountain
 - In-service June 2026





New Gas Fired Generation Site



Google Earth

ISY SWITCHYARD EXPANSION

FINAL 1

NGCC UNIT 3
NGCC UNIT 4
INTERTIES

FB5 FB6 FB7 FB8

NEW AC
FILTER
BANKS

3 4

NEW AC
SWITCHYARD
EXPANSION

BANK
"J"

FUTURE
INTERTIE

M

BANK
"M"

C

RACK
"C"

NEW
CONVERTER
STATION

Schedule

Final Approvals by IPP CC, RCCC and IPA Board	September 2018
California Municipalities Notice to Exit	August 2019
Participant Approval to Finance Project	November 2019
Award EPC Contract	March 2022`
Commission Gas Pipeline	April 2023
Both New Generating Units In-service	June 2025
New Converter Stations In-service	June 2026

Future Projects

Renewable energy on site

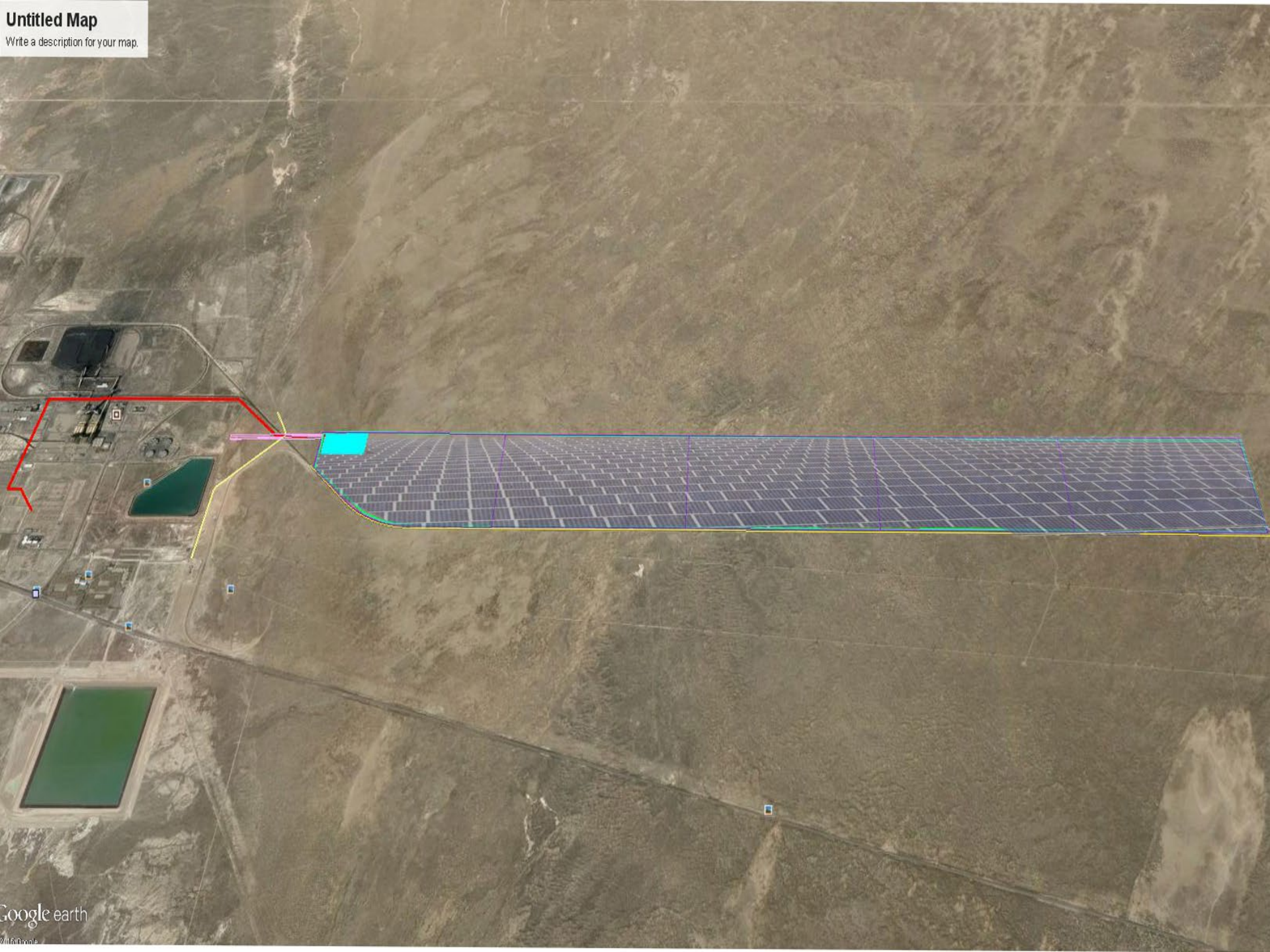
Interconnection for offsite renewable energy – 13 projects 6800 MW

Hydrogen – production, usage and storage

Transwest Express – Wyoming Wind

Boral ash recovery project

No Carbon power generation



Notch Peak Solar

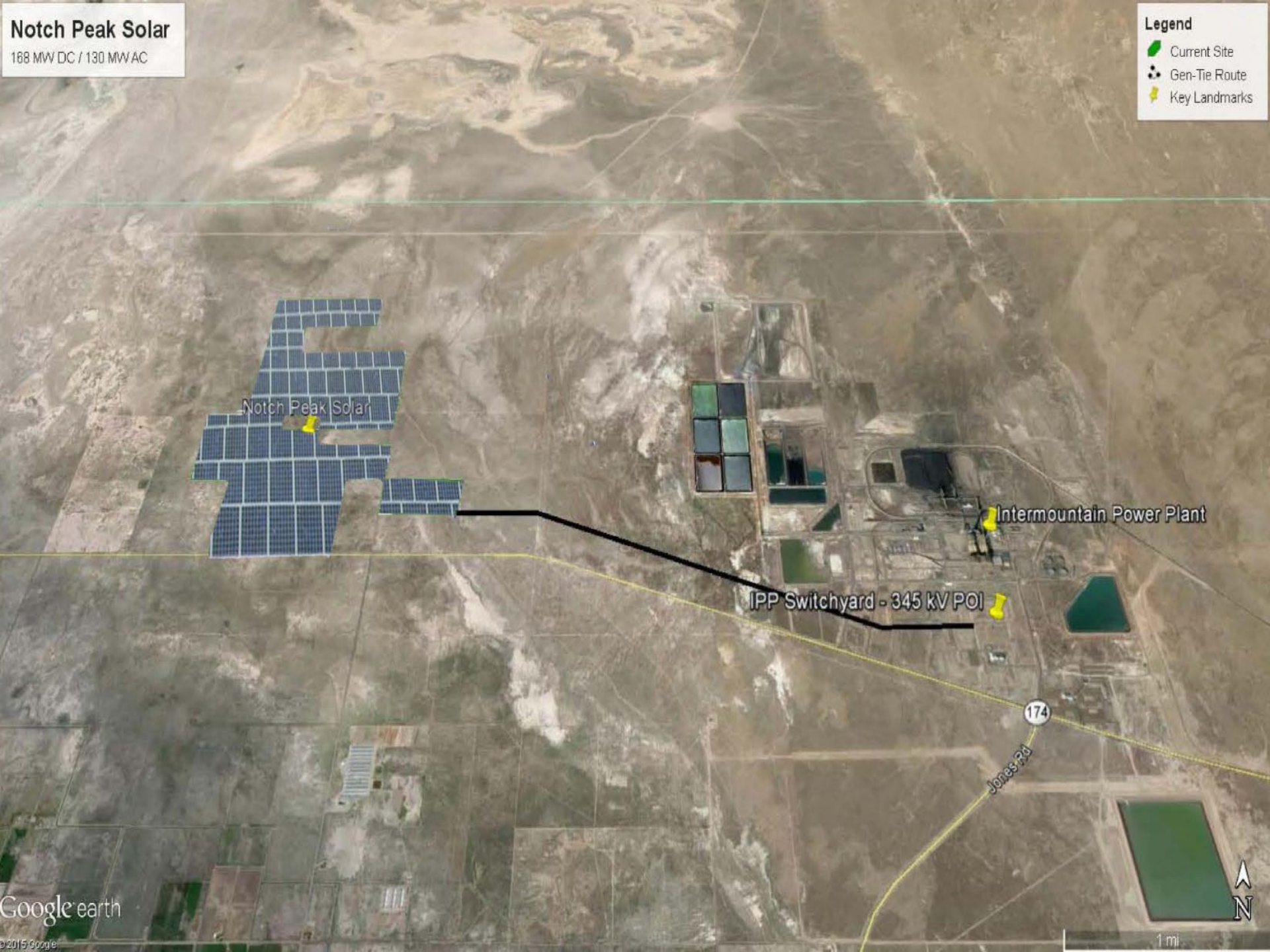
188 MW DC / 130 MW AC

Legend

 Current Site

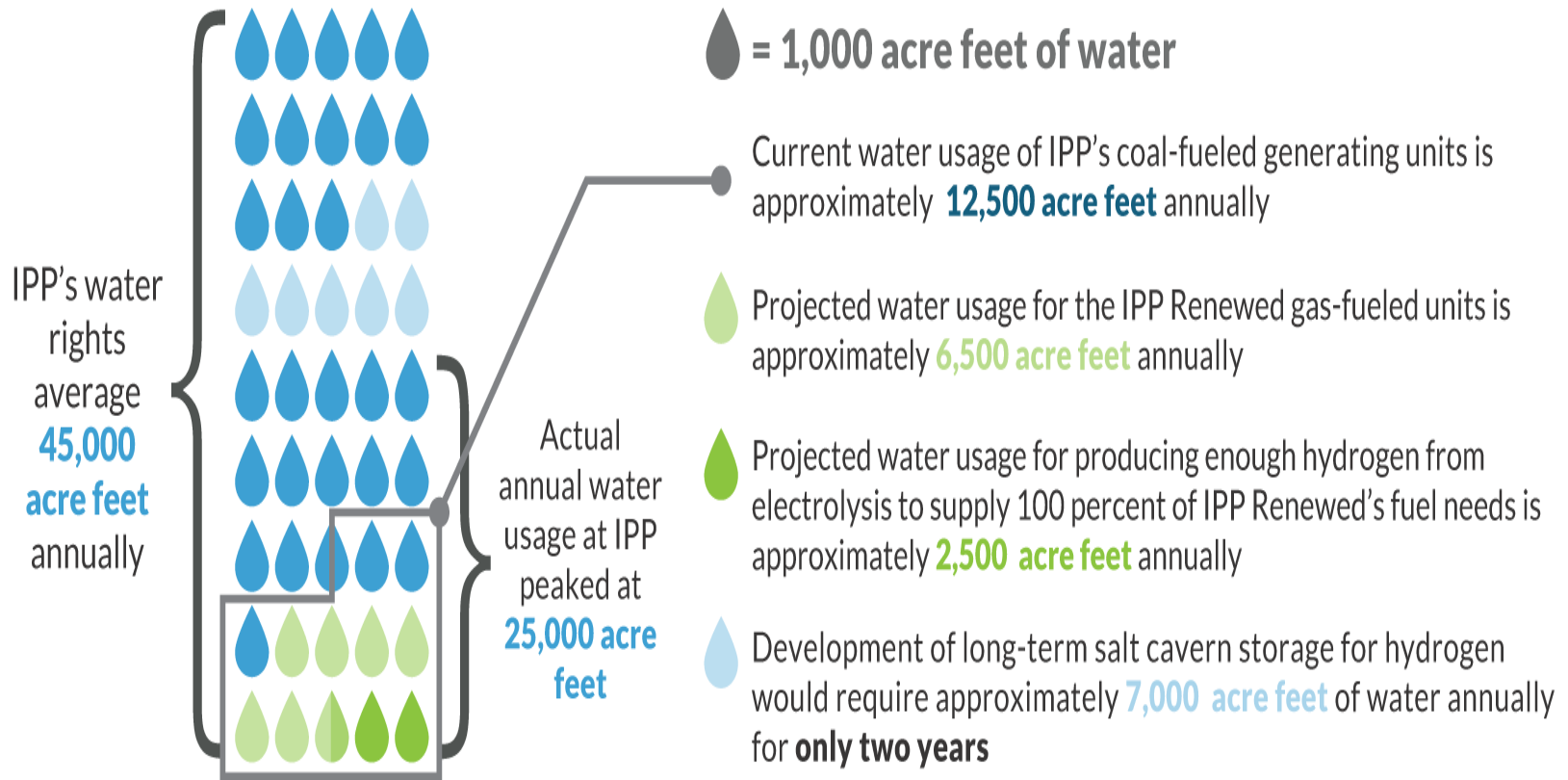
 Gen-Tie Route

 Key Landmarks



Reducing consumption of one of Utah's most precious resources

In 1979, prior to construction of the Intermountain Power Project, the Project acquired water rights averaging 45,000 acre feet annually at a cost significantly above its agricultural value. Because IPP eventually constructed only two of the originally anticipated four coal-fueled generating units, the project has never consumed all of its water directly. Instead, IPP has acted as a diligent steward of the resource by leasing excess water to local farmers and beneficially using it in every year of the Project's history.



NGS Demolition



A Tale of Two Power Plants

Coal-fueled power plants of similar age, size, rural location, and customer composition.

Intermountain Power Project

- Coal consumption through 2025; \$2.5 billion investment in new facilities; decades of adjacent energy development likely.



Navajo Generating Station

- Already demolished. 800 Employees laid off or transferred to Phoenix.

