

# 2021 Power Marketing Initiative Proposal

Pick-Sloan Missouri Basin Program--Eastern Division

**Western Area Power Administration**

April 2011



# Introduction

- ▶ Jody Sundsted – Power Marketing Manager
- ▶ Doug Hellekson – Contracts and Energy Services Manager
- ▶ Gary Hoffman – Attorney Advisor
- ▶ John Pankratz – 2021 PMI Project Manager



# Two Separate Forums

- ▶ Information Forum
- ▶ Break
- ▶ Comment Forum



# Information Forum Agenda

- ▶ Overview of Western
- ▶ Upper Great Plains Region
- ▶ Marketing Plan History
- ▶ Key Marketing Plan Principles
- ▶ 2021 PMI Proposal
- ▶ Comment Period
- ▶ Next Steps and Further Information



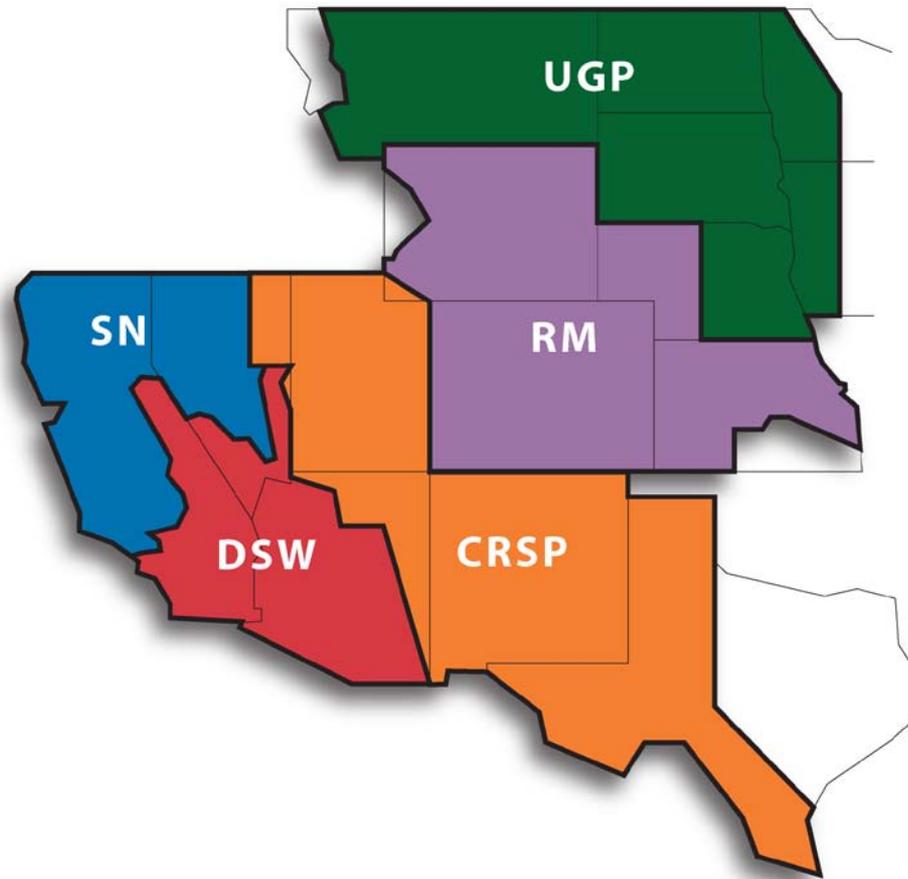
# Overview of Western

**Mission:** Market and deliver clean, renewable, reliable, cost-based Federal hydroelectric power and related services

**Vision:** Provide premier power marketing and transmission services

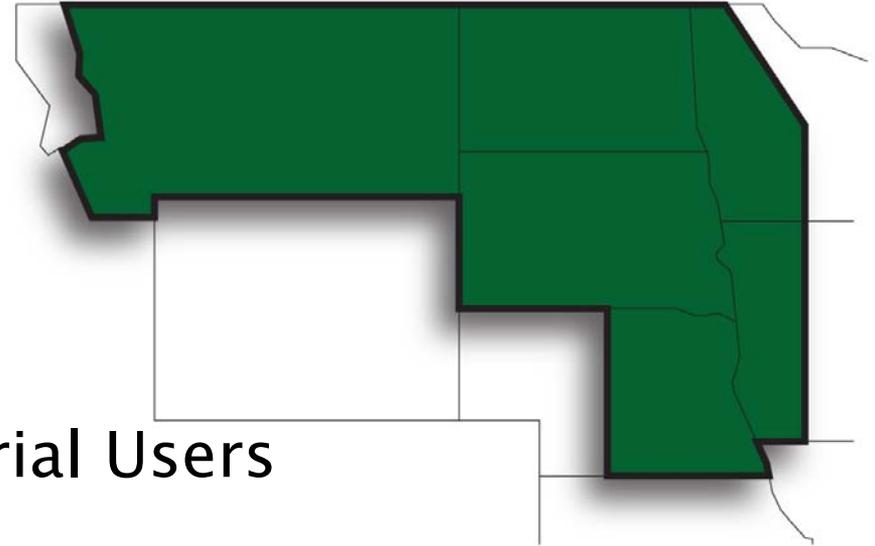


# Western Today



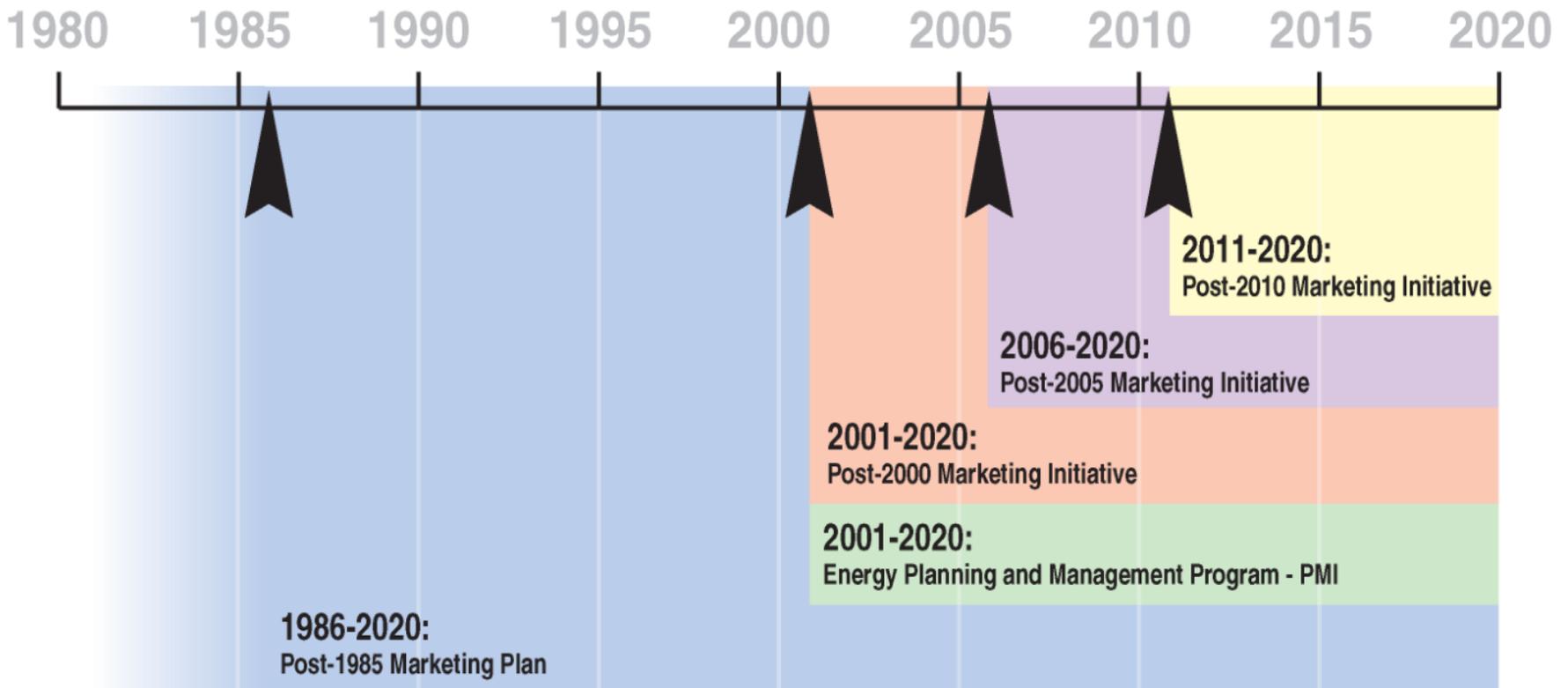
# Upper Great Plains Region

## Pick-Sloan Missouri Basin Program--Eastern Division



- Irrigation Districts
- Municipal, Rural, and Industrial Users
- Municipalities
- Native American Tribes
- Public Power Districts
- Rural Electric Cooperatives
- State and Federal Agencies

# Marketing Plan History



# Post-1985 Marketing Plan

- ▶ Extended long-term commitments to existing customers and allocated power to 34 new customers through December 31, 2000
- ▶ Established the Conservation and Renewable Energy (C&RE) Program
- ▶ Marketable capability and energy based on U.S. Army Corps of Engineers' study



# Energy Planning and Management Program (EPAMP)

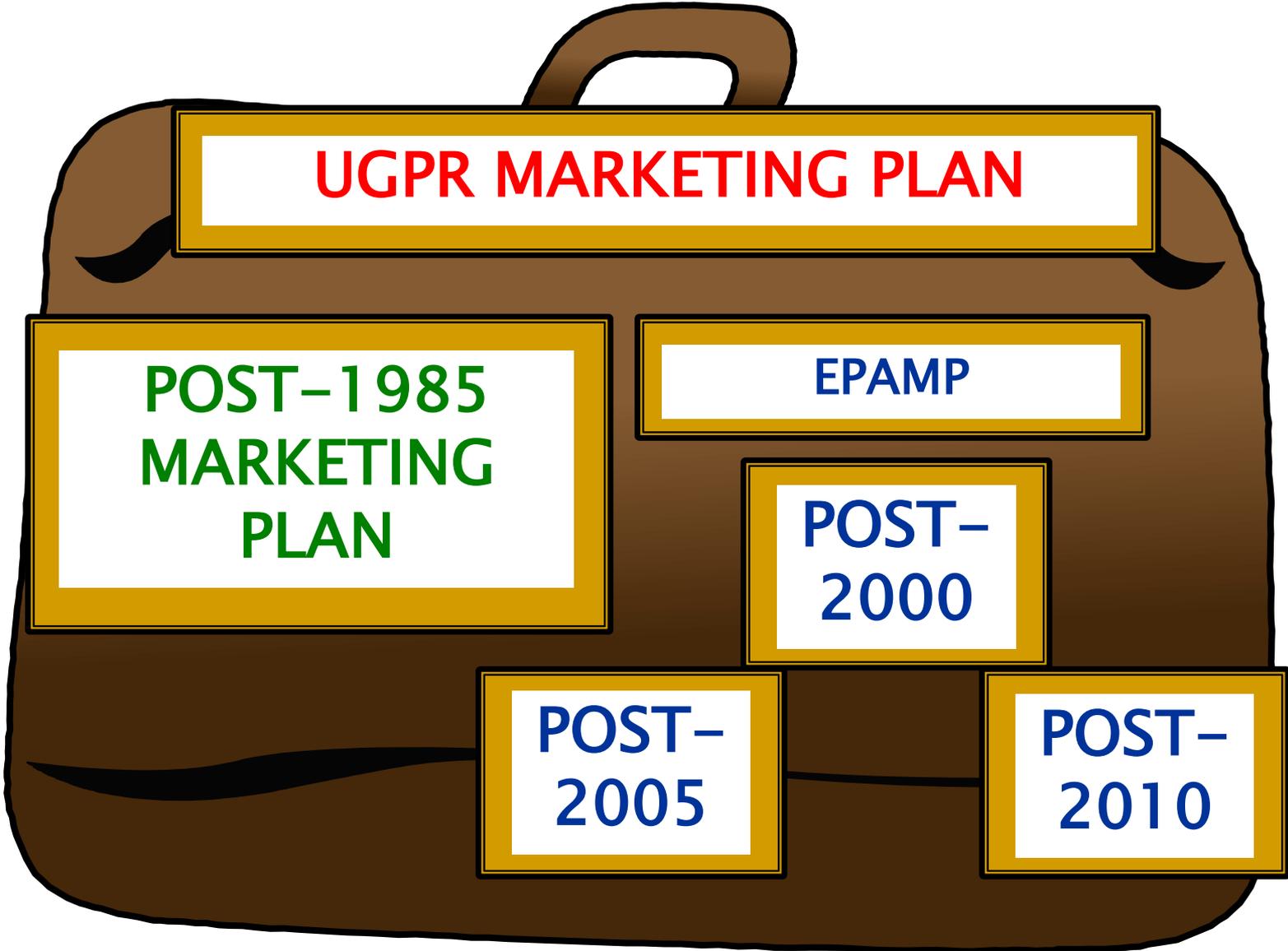
- ▶ **Part 1 – Integrated Resource Planning (IRP)**
  - Replaced C&RE Program with IRP Planning
- ▶ **Part 2 – Power Marketing Initiative (PMI)**



# EPAMP PMI

- ▶ Provided the framework for marketing power for all Western Regions
- ▶ Upper Great Plains Region
  - Extended and amended existing Post-1985 Marketing Plan
  - Made commitments initially to existing customers at 96 percent of the marketable resource
  - Resource Pools – new customers
    - Native American tribes– utility status waived
  - Contract term through December 31, 2020





**UGPR MARKETING PLAN**

**POST-1985  
MARKETING  
PLAN**

**EPAMP**

**POST-  
2000**

**POST-  
2005**

**POST-  
2010**

# Current Key Marketing Plan Principles

1. Contract Term
2. Resource Pools
3. Marketable Resource
4. Marketing Area
5. Load Factor Limit and Withdrawal Provisions
6. Marketing Future Resources



# 2021 PMI Proposal Background

- ▶ Western initiated discussions with firm power customers in November 2010 by hosting meetings throughout the region
- ▶ Western initiated consultation with tribal firm power customers in November 2010 by hosting Native American focused meetings throughout the region
- ▶ Customers reviewed the current Marketing Plan principles and provided informal input to Western for consideration in this 2021 PMI proposal



# 2021 PMI Proposal

- ▶ Western's 2021 PMI proposes to extend the current Marketing Plan with amendments to the Contract Term and Resource Pools principles



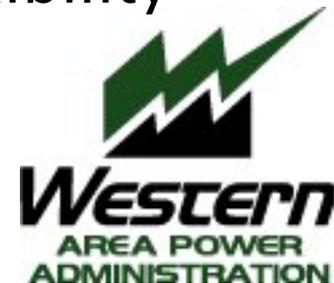
# Contract Term

- ▶ **2021 PMI Proposal  
(Amended Principle)**
  - 30-year contract term for firm electric service customers (January 1, 2021 through December 31, 2050)



# Contract Term

- ▶ Post-1985 Marketing Plan extended the customer contract term through December 31, 2000
- ▶ EPAMP extended the customer contract term for 20 years through December 31, 2020
- ▶ Boulder Canyon Project (Desert Southwest Region) current contracts are for 30 years and they are proposing a new marketing plan for 30 years
- ▶ Contract/Marketing Plan term needs to strike a balance between customers' need for stability in resource planning and Western's need for flexibility



# Resource Pools

- ▶ **2021 PMI Proposal  
(Amended Principle)**
  - Resource pool of up to 1 percent of the marketable resource under contract at the time for eligible new preference entities at the beginning of the contract term (January 1, 2021) and again every 10 years (January 1, 2031, and January 1, 2041)

# Resource Pools

- ▶ Flood Control Act of 1944 – widespread use
- ▶ EPAMP – Resource Pools
  - Widespread use
  - Enabled longer term contracts
  - Completed last pool – 2011
    - Up to 1 percent withdrawal
    - No withdrawal required



# 2021 PMI Proposal

- ▶ Propose to extend all provisions and principles of the current Marketing Plan with amendments to the Contract Term and Resource Pools principles
- ▶ Included for reference are key Marketing Plan principles extended from the current Marketing Plan:
  - Marketable Resource
  - Marketing Area
  - Load Factor Limit and Withdrawal Provisions
  - Marketing Future Resources



# Marketable Resource

- ▶ **2021 PMI Proposal  
(Extend Current Principle)**
  - **Capability**
    - Extend current Contract Rates of Delivery to all firm power customers, adjusted by up to 1 percent for a new resource pool in 2021
    - Continue use of a modeled adverse condition to determine the marketable capability
      - Withdrawal provisions provide risk management
  - **Energy**
    - Continue providing energy at system load factor for as long as possible
    - Continue marketing energy at the approximate median forecast annual generation

# Marketable Resource

- ▶ Key components of the Post-1985 Marketing Plan Marketable Capability Methodology
  - Capability:
    - Concept was to market to an adverse water inflow condition with managed risk
      - Based on 1961 inflows
      - Second most adverse water inflow year (excluding 1934 - 1942)

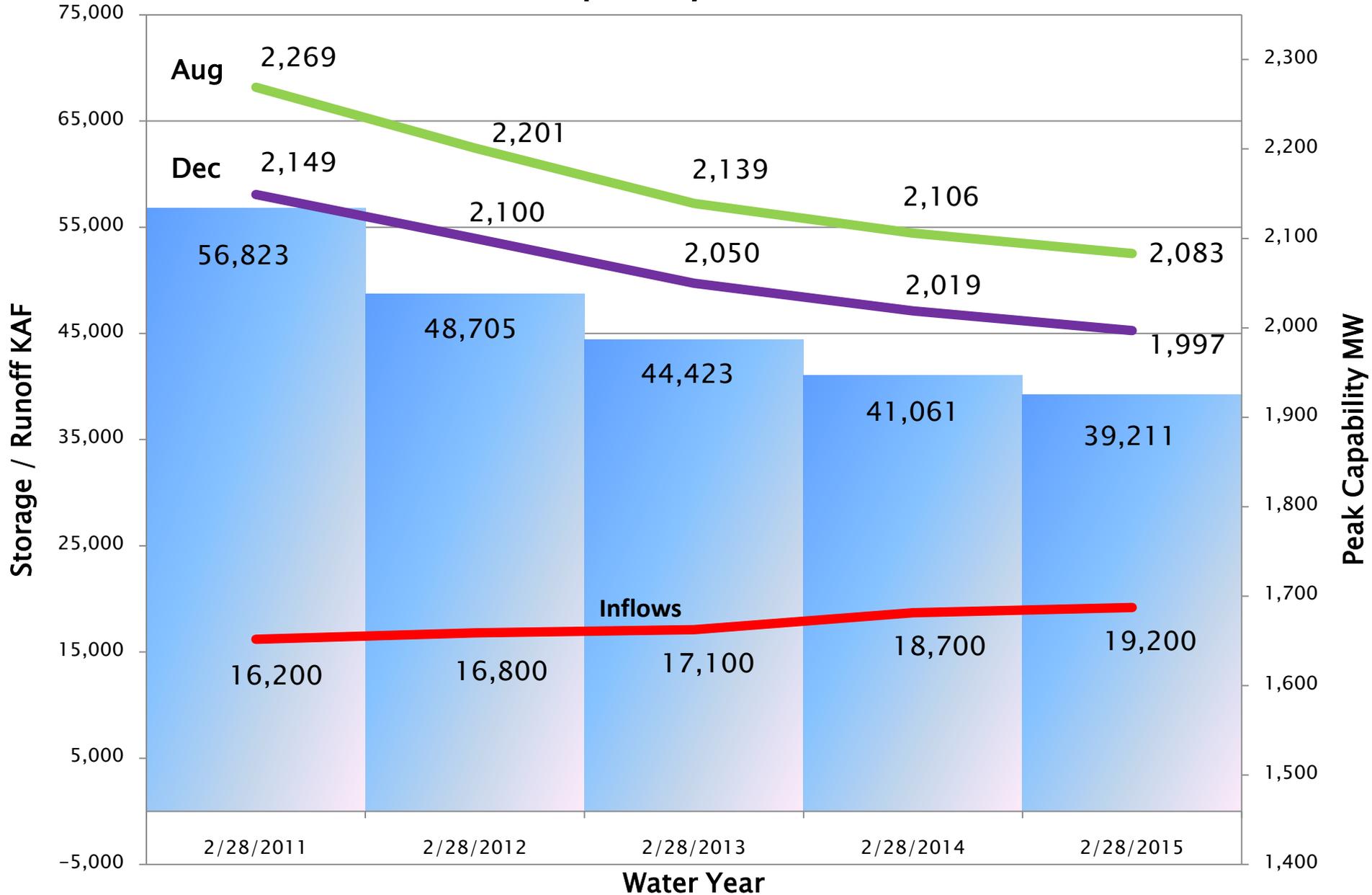
# Marketable Resource

- ▶ **Marketable Capability**
  - Marketable capability (MW) is ultimately based on reservoir storage condition and inflow, with reservoir management, to meet Corps's Master Manual objectives, taking precedent
  - Risk is driven by the occurrence of several years of at or near lower decile inflows

# Marketable Resource

- ▶ Marketable Capability – Modeled Adverse Condition
  - Use a 5–year forecast model with current reservoir management practices
    - Start at a full pool
    - Use a forecast of lower decile/quartile runoff (inflow) to produce an adverse storage condition

# Modeled Adverse Condition Peak Capability (Mainstem)



# Marketable Resource Capability Range

2021 Forecast as of April 2011

Resources	<u>Aug MW</u>	<u>Dec MW</u>
Main Stem (Modeled Adverse Condition)	2,083	1,997
Canyon Ferry + ½ Yellowtail	198	198
Southwest Power Administration Diversity	25	25
<b>P-SMBP--ED Capability</b>	<b>2,306</b>	<b>2,220</b>
<b>Less Obligations</b>		
Plant Use	(5)	(9)
Planning Reserves 1/	(206)	(199)
Project Use / Irrigation	(37)	(1)
Municipal, Rural and Industrial (MR&I)	(13)	(4)
<b>Capability for Firm</b>	<b>2,045</b>	<b>2,007</b>
Existing Firm Obligations	(2,014)	(1,983)
Losses	(112)	(113)
Diversity	117	111
<b>Difference</b>	<b>36</b>	<b>22</b>
<b>Variable Factors</b>		
Planning Reserves	??	??
Project Use / Irrigation	??	??
MR&I Development	??	??
Final Corps/BOR Studies	??	??
<b>2021 Forecast - November 2010 2/</b>	<b>(15)</b>	<b>(24)</b>
<b>2021 Marketable Resource Capability Range</b>	<b>(15) to 36</b>	<b>(24) to 22</b>

1/ Planning Reserves estimated at 10 percent of total load

2/ Forecast presented at customer meeting in November/December 2010

# Comparison of Marketable Capability Model Results to the 2000 through 2007 Drought

- ▶ If 2000 through 2007 conditions repeated in 2021 and we started with a full pool:
  - Capability would be “tight” but would likely be met in an extended drought

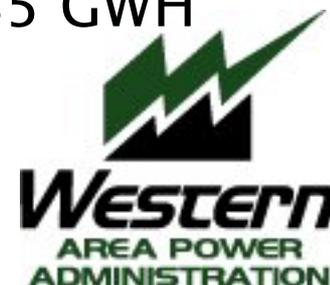
# Marketable Resource

- ▶ Marketable Energy
  - Historically, Western has marketed energy at the approximate median forecast annual generation
  - Western believes this methodology is still appropriate for the 2021 PMI

# Marketable Resource

## ▶ Marketable Energy (cont.)

- Current study forecast for annual median energy in 2020 is 10,200 GWH (Mainstem and Bureau of Reclamation)
  - Based on 1930 – 2002, current depletion levels and existing sedimentation data
  - Sedimentation data for the three larger reservoirs have not been updated in approximately 25 years
  - Saleable energy after adjusting for transmission losses, plant-use, etc. is approximately 9,085 GWH



# Marketable Resource

## Marketable Energy Comparison

<u>Energy (GWH)</u>	<u>Summer</u>	<u>Winter</u>	<u>Annual</u>
Saleable Energy from 1985 Model Estimated for 2000	5,035	3,939	8,974
Actual Energy Billed 1979 <i>1/</i>	3,790	4,391	8,181
<b>Difference</b>	<b>1,245</b>	<b>(452)</b>	<b>793</b>

*1/ Derived from load factor and estimated seasonal demand in 1979*

<u>Energy (GWH)</u>	<u>Summer</u>	<u>Winter</u>	<u>Annual</u>
Saleable Energy from 2021 Model <i>1/</i>	5,254	3,832	9,086
Actual Energy Billed 2008 <i>2/</i>	4,251	4,740	8,991
<b>Difference</b>	<b>1,003</b>	<b>(908)</b>	<b>95</b>

*1/ 2050 modeled energy will decrease by approximately 100 GWH*

*2/ Maximum energy year since 1998*



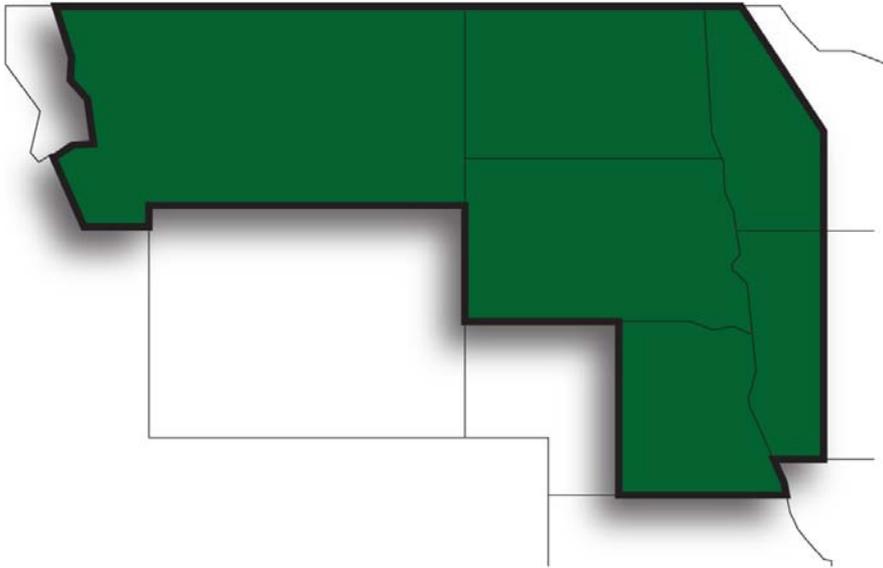
# Comparison of Marketable Energy Forecast to the 2000 through 2007 Drought

- ▶ If 2000 through 2007 conditions repeated in 2021 and we started with a full pool:
  - Energy would be short starting in year 2 by approximately 20 percent worsening to conditions similar to those experienced in 2000 through 2007 (40 percent to 50 percent of required generation)



# Marketing Area

## 2021 PMI Proposal (Extend Current Principle)



The marketing area of the P-SMBP--ED is Montana (east of the Continental Divide), all of North Dakota and South Dakota, Nebraska east of the 101° meridian, Iowa west of the 94½° meridian, and Minnesota west of a line on the 94½° meridian from the southern boundary of the state to the 46° parallel and then northwesterly to the northern boundary of the state at the 96½° meridian

# Marketing Area

- ▶ The current marketing area for existing resources was established in 1953 and confirmed in subsequent public processes

# Load Factor Limit and Withdrawal Provisions

## ▶ Load Factor Limit

### ◦ 2021 PMI Proposal

#### (Extend Current Principle)

- Western markets power at system load factors for as long as possible and reserves the right for Western, with 3 years advance notice, to limit monthly load factors to 70 percent

# Load Factor Limit and Withdrawal Provisions

## ▶ Load Factor Limit

- Load factor limit was addressed under the Post-1985 Marketing Plan due to a concern for growing customer load factors
- Western's actual summer and winter seasonal load factors and energy have increased over time
- Winter seasonal load factor exceeds energy availability, therefore Western purchases energy to meet customer energy obligations
- A reasonable monthly load factor limit, that could be implemented by season if needed, could reduce required energy commitments and help control energy costs over the contract term



# Load Factor Limit and Withdrawal Provisions

## ▶ Project Use Withdrawal

### ◦ 2021 PMI Proposal

#### (Extend Current Principle)

- Western shall reserve the right to reduce a customer's summer season contract rate of delivery by up to 5 percent for new project use requirements, by giving a minimum of 5 years written notice in advance of such action



# Load Factor Limit and Withdrawal Provisions

## ▶ Project Use Withdrawal

- Post-1985 Marketing Plan
  - Withdrawal provision included to address future project use requirements
- This withdrawal provision allows Western to:
  - Withdraw power to meet new project use requirements, if needed
  - Flexibility over the contract term



# Load Factor Limit and Withdrawal Provisions

- ▶ **Hydrology and River Operations Withdrawal**
  - **2021 PMI Proposal**  
**(Extend Current Principle)**
    - Western, at its discretion and sole determination, reserves the right to adjust the contract rate of delivery on 5 years' written notice in response to changes in hydrology and river operations. Any such adjustments shall only take place after a public process by Western.



# Load Factor Limit and Withdrawal Provisions

- ▶ **Hydrology and River Operations Withdrawal**
  - EPAMP
    - Withdrawal provision added to the marketing plan to provide Western the flexibility to adapt to changes in hydrology and river operations
  - This withdrawal provision allows Western to:
    - Withdraw to meet changes in hydrology and river operations, if needed
    - Flexibility over contract term



# Marketing Future Resources

- ▶ **2021 PMI Proposal  
(Extend Current Principle)**
  - Power resources may become available from various sources
  - Western may elect to use power as needed. For example:
    - Retain the power for operational flexibility
    - Sell the resources on a short-term basis
    - Allocate power



# Marketing Future Resources

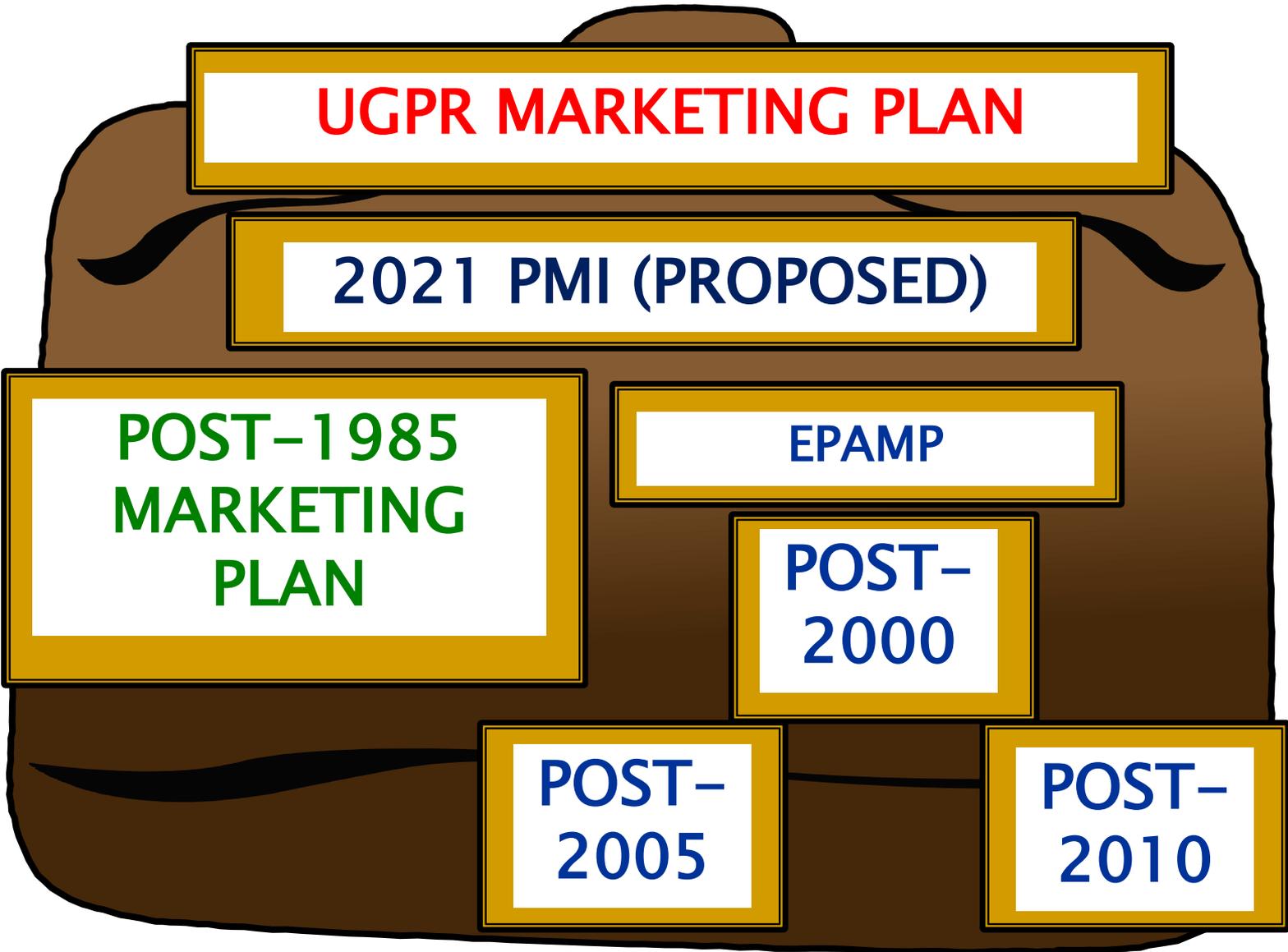
- ▶ This provision was utilized to provide an allocation to one new customer during the Post-2010 process



# 2021 PMI Proposal Summary

- ▶ Western's 2021 PMI proposes to extend the current Marketing Plan with amendments to the Contract Term and Resource Pools principles
  - Amended Contract Term
    - 30-year contract term
  - Amended Resource Pools
    - Resource pool of up to 1 percent of the marketable resource under contract at the time
      - Eligible new preference entities
      - Every 10 years (2021, 2031, 2041)





**UGPR MARKETING PLAN**

**2021 PMI (PROPOSED)**

**POST-1985  
MARKETING  
PLAN**

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# 2021 PMI Proposal Comments

- ▶ Comment Forums
- ▶ Written comments due by  
4 p.m., MDT, May 4, 2011



# Written Comments

- ▶ Mr. Robert J. Harris, Regional Manager  
Upper Great Plains Region  
Western Area Power Administration  
2900 4th Avenue North  
Billings, MT 59101
- ▶ (406) 255-2900 (fax)
- ▶ UGP2021@wapa.gov

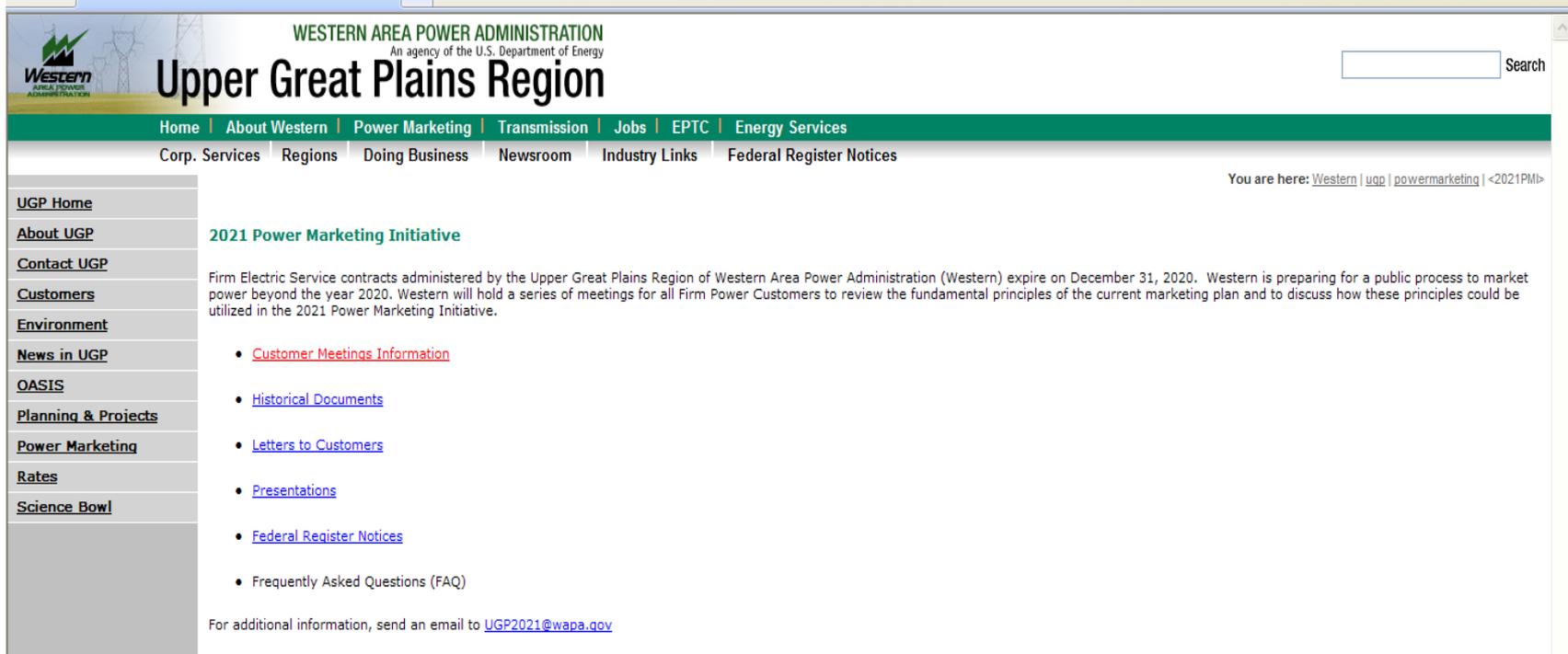


# 2021 PMI Next Steps

- ▶ Consideration of comments on the Proposed 2021 PMI
- ▶ Publish 2021 PMI Final FRN (Summer 2011)

# 2021 PMI Information

<http://www.wapa.gov/ugp/PowerMarketing/2021PMI.htm>



The screenshot shows the Western Area Power Administration website. The header includes the Western Area Power Administration logo and the text "WESTERN AREA POWER ADMINISTRATION An agency of the U.S. Department of Energy". The main heading is "Upper Great Plains Region". A search bar is located in the top right corner. The navigation menu includes links for Home, About Western, Power Marketing, Transmission, Jobs, EPTC, Energy Services, Corp. Services, Regions, Doing Business, Newsroom, Industry Links, and Federal Register Notices. The breadcrumb trail reads "You are here: [Western](#) | [ugp](#) | [powermarketing](#) | <2021PMI>". The main content area is titled "2021 Power Marketing Initiative" and contains the following text: "Firm Electric Service contracts administered by the Upper Great Plains Region of Western Area Power Administration (Western) expire on December 31, 2020. Western is preparing for a public process to market power beyond the year 2020. Western will hold a series of meetings for all Firm Power Customers to review the fundamental principles of the current marketing plan and to discuss how these principles could be utilized in the 2021 Power Marketing Initiative." Below this text is a list of links: [Customer Meetings Information](#), [Historical Documents](#), [Letters to Customers](#), [Presentations](#), [Federal Register Notices](#), and [Frequently Asked Questions \(FAQ\)](#). At the bottom of the main content area, it says "For additional information, send an email to [UGP2021@wapa.gov](mailto:UGP2021@wapa.gov)". The left sidebar contains a list of navigation links: [UGP Home](#), [About UGP](#), [Contact UGP](#), [Customers](#), [Environment](#), [News in UGP](#), [OASIS](#), [Planning & Projects](#), [Power Marketing](#), [Rates](#), and [Science Bowl](#).

**Questions / Break**

