Network Open Season Commercial Infrastructure Financing Policy Summary

Posted for discussion at the

December 9, 2008

Network Open Season Customer Meeting

Commercial Infrastructure Modeling

Agency Strategic Objectives

S4: Transmission Access & Rates:

Open, non-discriminatory transmission services are provided at rates that are kept low through achievement of BPA's objective at the lowest practical cost

F2: Cost Recovery:

BPA consistently recovers its costs over time

I3: Governance & Internal Controls:

Governance and internal controls are robust, reasonably balanced and adhered to across the organization

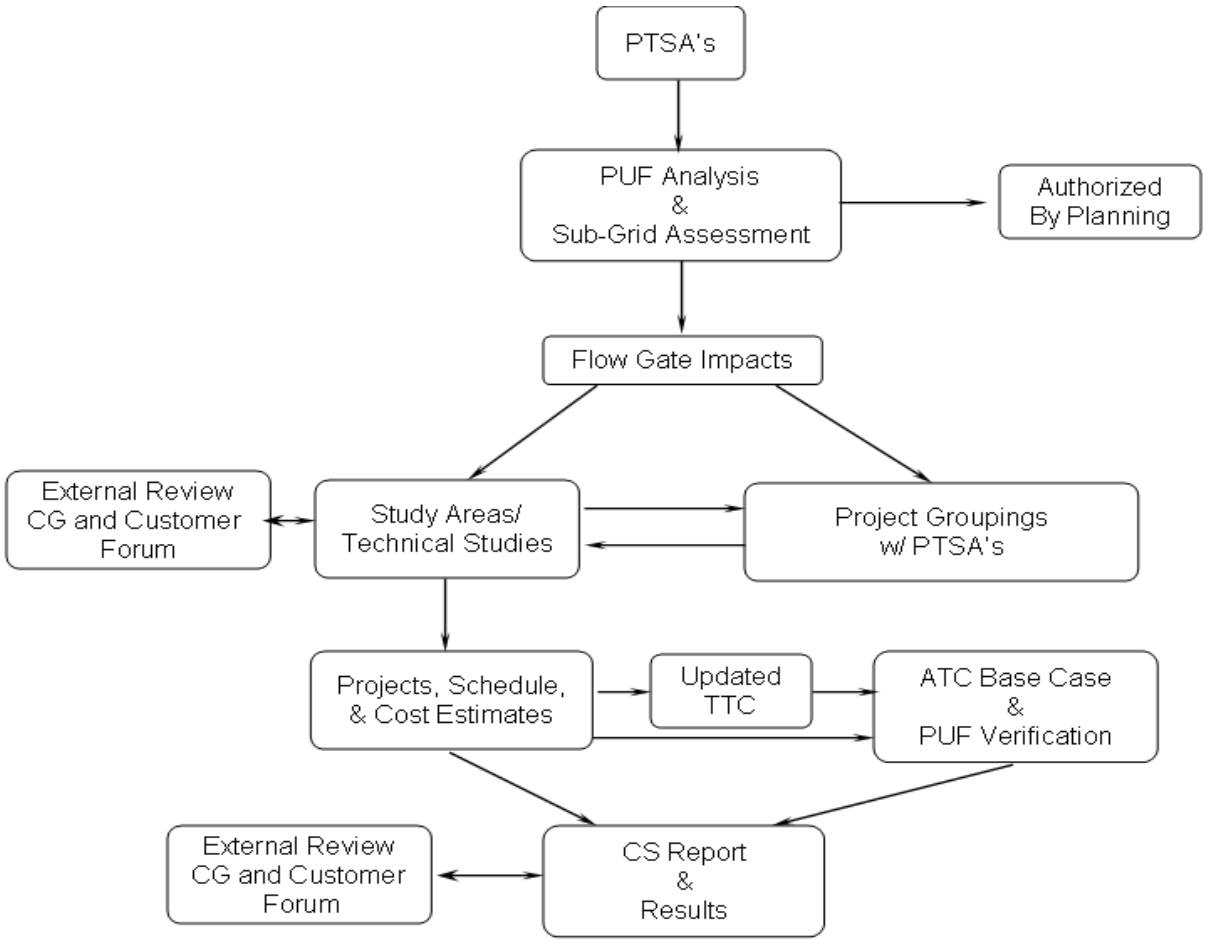
I4: Asset Management:

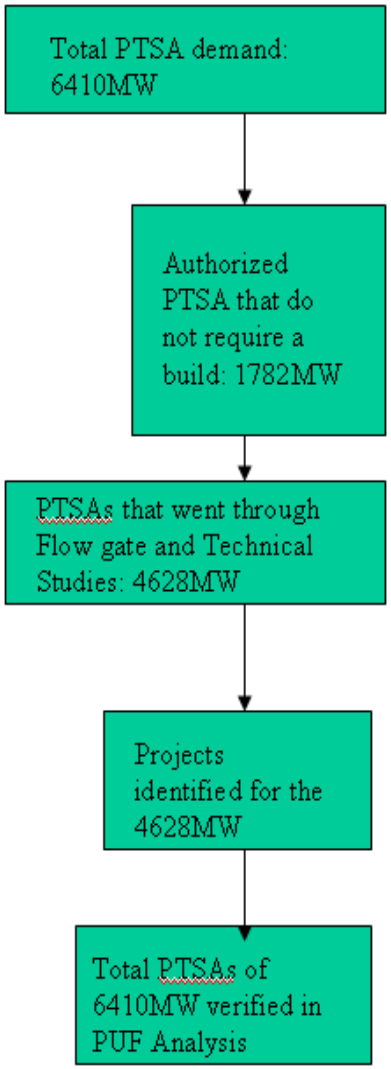
Integrated asset management practices maximize the long-term value of FCRPS assets

Cluster Study Results

- Develop an understanding of how the financial modeling is being done.
  - Methodology
  - Assumptions
  - Results
- To determine if other scenarios or assumptions are needed in order to propose a recommendation in January.
- Review the proposed criteria for determining proposed recommendation in January.

Cluster Study Process





Projects/Study Areas

1. West of McNary Reinforcements (WOMR)
2. I-5 Corridor Reinforcement
3. Little Goose Area Reinforcement
4. West of Garrison Remedial Action Scheme (RAS)
5. Harney Area Reinforcement
6. Northern Intertie Reinforcement
7. LaGrande Area Reinforcement
8. Cross Cascades South Reinforcement
9. Cross Cascades North Reinforcement

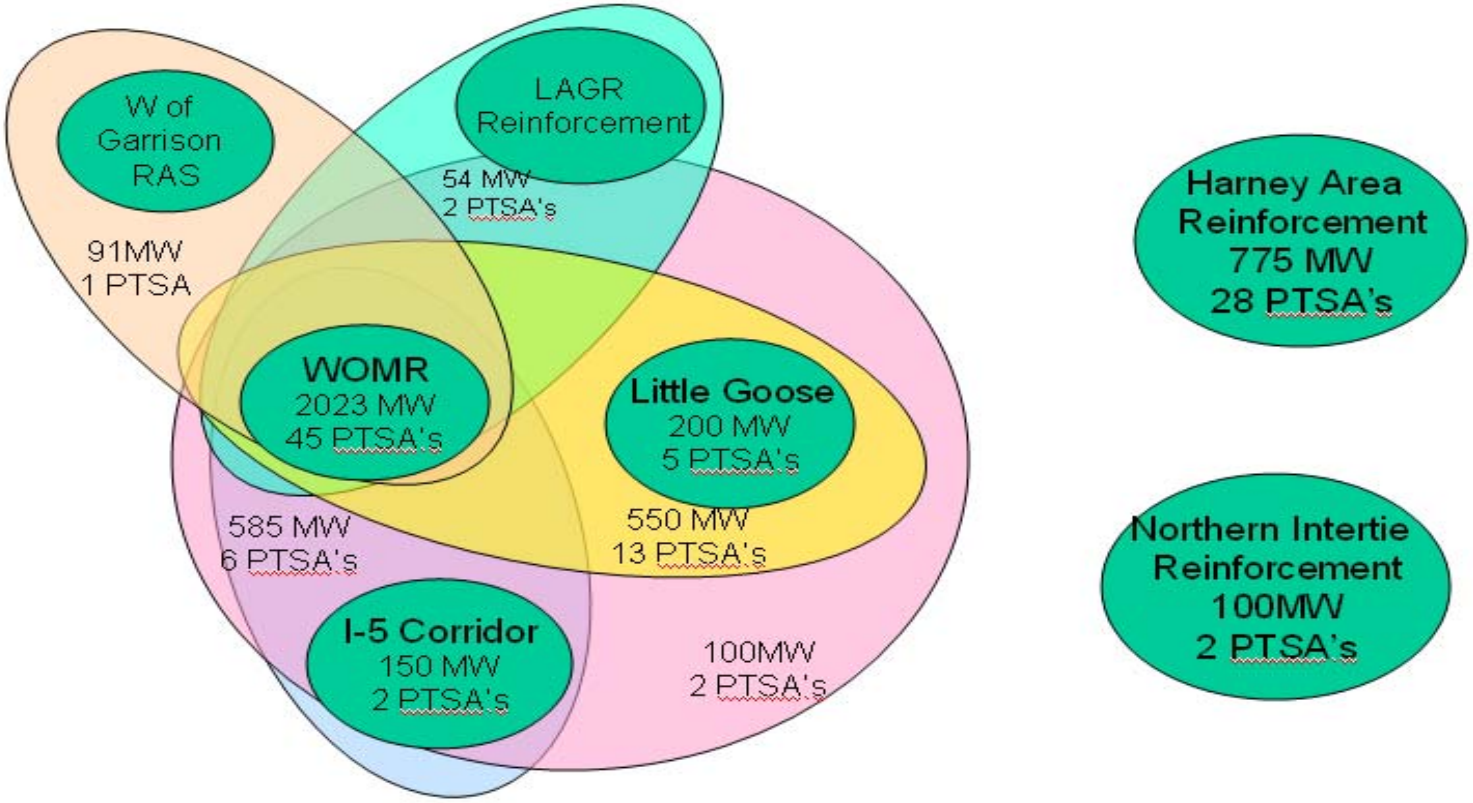
PTSA Grouping

Grouping	PTSA's	Demand
Authorize -- Pre NOS	4 PTSA's	55 MW
Authorize†	42 PTSA's	1,727 MW
WOMR	45 PTSA's	2,023 MW
I-5 Corridor Reinforcement	2 PTSA's	150 MW
Little Goose Area Reinforcement	5 PTSA's	200 MW
WOMR & West of Garrison RAS	1 PTSA's	80 MW
Harney Area Reinforcement	28 PTSA's	775 MW
Northern Intertie Reinforcement	2 PTSA's	100 MW
WOMR & LaGrande Area Reinforcement	3 PTSA's	54 MW
WOMR & I-5 Corridor Reinforcement	7 PTSA's	585 MW
WOMR & Little Goose Area Reinforcement	12 PTSA's	550 MW
WOMR & I-5 Corridor & Little Goose	2 PTSA's	100 MW
Total	153 PTSA's	6,410 MW

† ***Includes 2 PTSA's split into partial TSR's***

Cluster Study PTSA Grouping

Authorize – *Pre NOS* 55 MW, 4 PTSA's
Authorize – 1727 MW, 43 PTSA's



Cluster Study Results

	A	B	C	D	E	F	G	H
	Project Description	MW's	WOMR & West of Gar	WOMR & LaGr	WOMR & I-5	WOMR & Little Goose	WOMR & I-5 & Little Goose	All, with no Authorized
1	Authorized-Pre NOS	55						
2	Authorized[1]	1,727						
3	West of McNary Reinforcements	2,023	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
4	I-5 Corridor	150			**Yes**		**Yes**	**Yes**
5	Little Goose	200				**Yes**	**Yes**	**Yes**
6	West of Gar & WOMR	80	**Yes**					**Yes**
7	Harney County	775						**Yes**
8	Northern Intertie	100						**Yes**
9	WOMR & LAGR	54		**Yes**				**Yes**
10	WOMR & 1-5	585			**Yes**		**Yes**	**Yes**
11	WOMR & Little Goose	550				**Yes**	**Yes**	**Yes**
12	WOMR & I-5 & Little Goose	100					**Yes**	**Yes**
13	**MW's Total**	**6,399**	**2,103**	**2,077**	**2,758**	**2,773**	**3,608**	**4,617**

- The cluster study results identified 11 total grouping areas.
- The Authorized areas require no construction and will be included in the analysis on a limited basis, but the bulk of the economic analysis will include the ten new groupings that require construction that you can see above from WOMR down.
- The cluster study has provided the demand by megawatts that each PTSA provides, however they are not all additive as the chart may suggest. Consider WOMR:

  WOMR = 2,023 MW's if done by itself

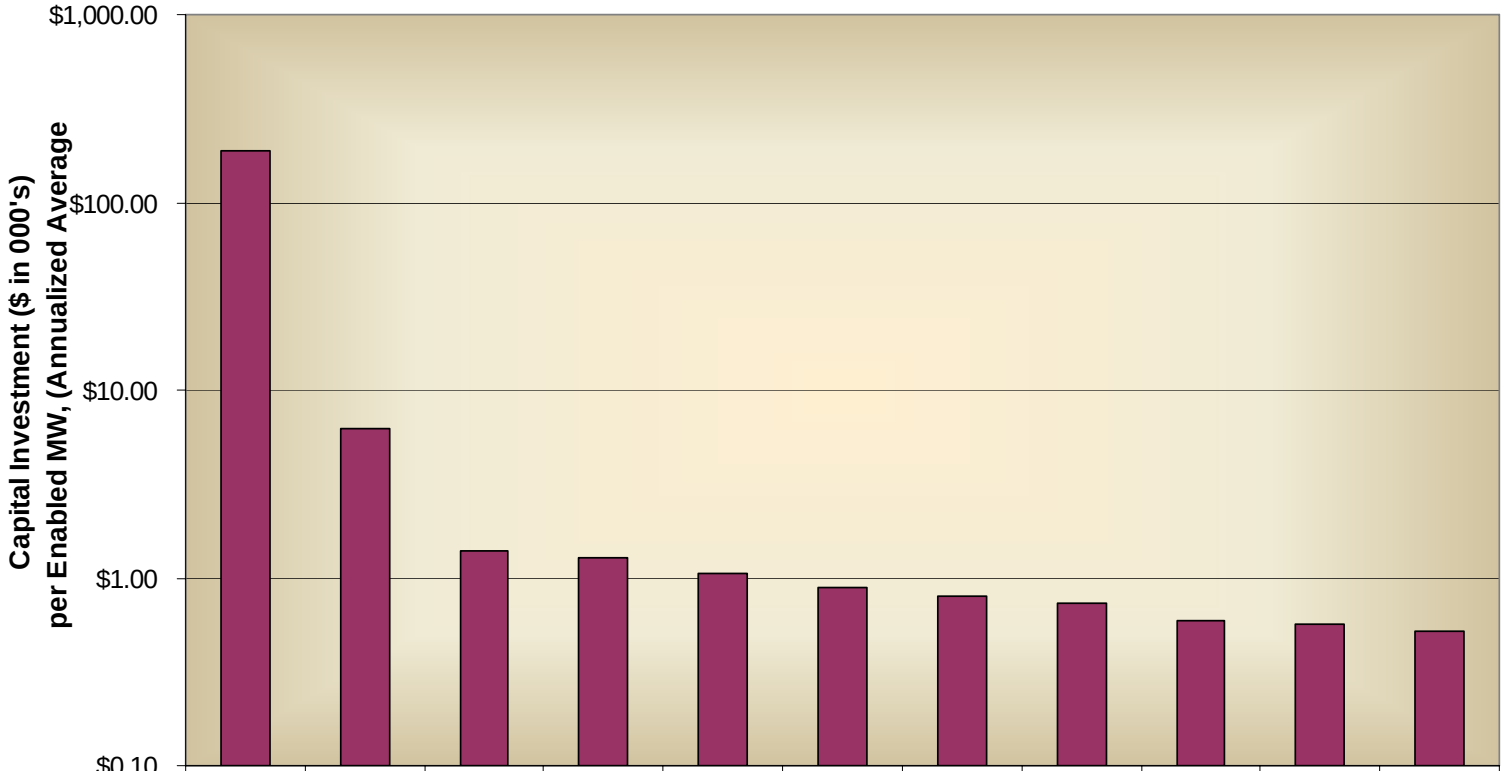
  1-5 Corridor = 150 MW's if done by itself

  WOMR & 1-5 = 585 MW's incremental to both if both done

  So total would actually be:

  2,023+150+585 = 2,758 MW's if WOMR & I-5 are done together

Cluster Study Results



	I5 Only	Northern Intertie	Little Goose	Harney	Consolidated	WOMR & I5	WOMR & LaGrande	WOMR & I5 & Little Goose	WOMR Only	WOMR & W.GAR RAS	WOMR & Little Goose
$000 per MW	$190.00	$6.26	$1.38	$1.29	$1.05	$0.89	$0.79	$0.73	$0.59	$0.57	$0.53

Commercial Infrastructure Analysis

	A	B	C	D	E
	NOS Project Grouping (with combined clusters)	Average Subscription (30 years from start date)	Demand (MW)		
			Demand (PTP)	Demand (NT and Redirects)	Total Demand
1	WOMR	1,697	1,826	197	2,023
2	Harney	775	775	0	775
3	I-5	5	150	0	150
4	WOMR & I5	2,197	2,471	287	2,758
5	WOMR & Little Goose	2,447	2,576	197	2,773
6	Little Goose	200	200	0	200
7	WOMR & LaGrande	1,735	1,864	213	2,077
8	WOMR & I-5 & Little Goose	3,047	3,321	287	3,608
9	WOMR & W. of Garrison RAS	1,788	1,917	197	2,114
10	Northern Intertie	100	100	0	100

This chart shows the difference between the Total Demand in the Cluster study results (Column E) and average subscription (Column B).

- NT and Redirects are not included in subscription revenue forecasts (Column D).
- Total Demand Column (Column E) does ignores contract duration and roll over assumptions.
- Average Subscription (Column B) displays the MWs by subscription that actually generate revenues on an average basis.

Commercial Infrastructure Modeling

Cluster Study outputs that go into the commercial infrastructure model consist of:

1. Direct costs
    a. By project, by year of construction
2. Demand Megawatts
    a. By project by year in megawatts.
    b. Several projects have multiple streams of megawatts coming on later in the project life
    c. The demand megawatts are assumed to roll over indefinitely if the initial subscription is 5 years or greater
    d. Only viewing the demand megawatts can be misleading considering subscription contract durations and rollover assumptions
    e. Some demand is NT and redirect
3. Benefits from delaying a planned project
    a. Planned reliability projects identified that can be delayed due to a new project
    b. Project is modeled as planned, then delayed project is modeled and net cost savings is modeled as a benefit

Commercial Infrastructure Modeling

Modeling Base Assumptions:

1. Rates
   a. Discount Rate = 9%
   b. Borrowing Rate = 7.15%, 3rd party taxable rate from 2009 BPA Borrowing and Inflation Rate Assumptions study.
   c. Construction inflation rate = 2%.
   d. PTP inflation rate = 1%, used on the PTP rate.
2. Overhead Loadings
   a. For the NPV calculation a incremental loading cost of $2 million per project per year of construction on all projects except West of Garrison (West of Garrison is a $2 million project so a 5% loading assumption was used) is being used.
   b. For the embedded rate calculation the average IPR forecasted composite loading percentage of 23% is being used.
3. Embedded rate calculation
   a. Using current $6.2 million = 1%, does not inflate over time.
   b. Rule of thumb is divided into incremental costs from repayment assumptions by year.
   c. Average rate calculations start averaging the first year the projects are energized and average, 5, 10, and 20 years subsequent to energization.

Commercial Infrastructure Modeling

Modeling Base Assumptions Continued:

4. PTP rate Calculation
    a. Base PTP rate = 1.298$/kw-mo, used to calculate subscription revenues.
5. Subscription MWs
    a. 1-4 year subscription contracts not assumed to not roll over.
    b. 5 year subscriptions and over are assumed to roll over indefinitely.

Commercial Infrastructure Modeling

- Risk
  - Project Delay or Cancellation
    - Financial Crisis- current economic conditions could delay developers after projects have been approved and constructed.
    - Precedent agreements do allow developers to delay up to 5 Years. Analysis does not anticipate any delay in revenues other than what was assumed in the rate case.
    - Due to various reasons a developer could cancel a project after BPA has spent significant dollars in construction.
    - Some projects have more diversified participation while others have only one or two different participants. In general, the more diversified the participation the less impact of a full a delay or cancelled project.
    - The likelihood of participation rollover is assumed to be 100% for all PTSA's of 5 year terms or greater. It is possible that contracts will not roll over with this level of certainty potentially forcing network rates to absorb the sunk costs of projects.
    - However there is likely additional ATC created by some projects that may generate more revenues than modeled here.

Commercial Infrastructure Modeling
Project Cost and Schedule

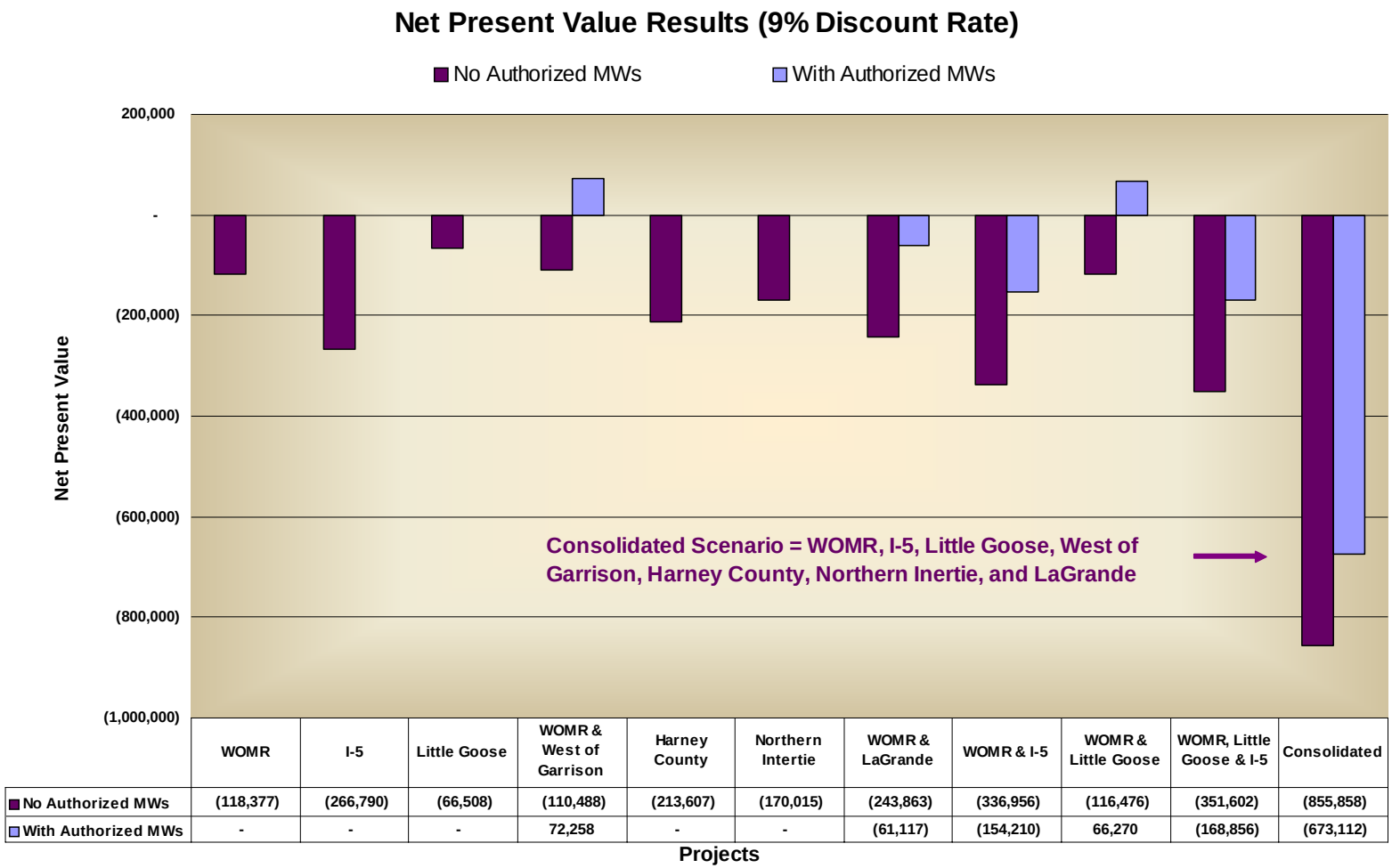
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
								FY Annual Direct Costs - $M						
	Project Description	Direct Cost $M	Loadings	AFUDC	Total Cost	Energ. Date	Rel. Ben $M	2009	2010	2011	2012	2013	2014	2015
1	WOMR	362	83	48	493	Feb-13	20	18	102	105	123	14	0	0
2	I-5 Corridor Reinforcement Total	342	79	43	464	Sep-15	10	2	12	7	85	85	75	75
3	Little Goose Area Reinforcement Total	99	23	10	132	Sep-13	0	1	7	28	30	33	0	0
4	West of Garrison Ras	2	1	0.4	3	Sep-11	0	0	1	1	0	0	0	0
5	Harney Area Reinforement Total	360	83	43	485	Sep-14	0	1	13	79	104	90	71	0
6	Northern Intertie Reinforecement Total	225	52	28	305	Sep-15	0	1	9	5	45	56	56	54
7	LaGrande Area Reinforecement Total	132	30	38	200	Sep-14	0	1	5	26	38	33	29	0
8	Total	1,522	350	210	2,082		30	24	149	251	425	311	231	129

Notes:

1. Energization dates assume decision to proceed is made in February 2009.
2. 2009 Expenditures under review with Project Managers.
3. Reliability Benefits are being reviewed.
4. The loadings costs for NPV purposes.
5. Project Cost risks for Harney, Northern Intertie and LaGrande Area Reinforcements are based on projects that have not been fully scoped.

Pre-decisional

Model Results - Net Present Value (Dollars in Millions)



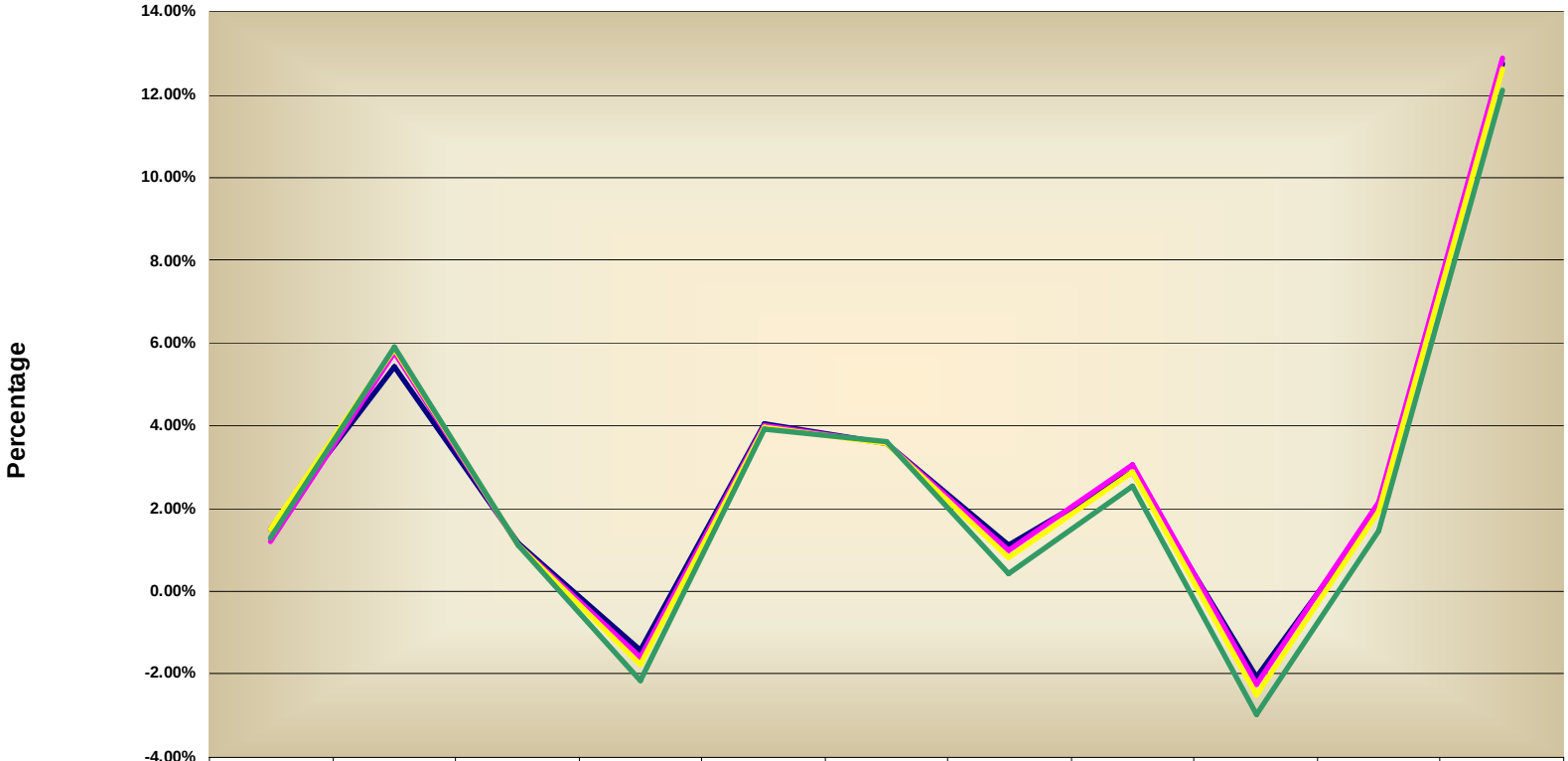
	WOMR	I-5	Little Goose	WOMR & West of Garrison	Harney County	Northern Intertie	WOMR & LaGrande	WOMR & I-5	WOMR & Little Goose	WOMR, Little Goose & I-5	Consolidated
No Authorized MWs	(118,377)	(266,790)	(66,508)	(110,488)	(213,607)	(170,015)	(243,863)	(336,956)	(116,476)	(351,602)	(855,858)
With Authorized MWs	-	-	-	72,258	-	-	(61,117)	(154,210)	66,270	(168,856)	(673,112)

1/TSRs that require a build
2/ Includes TSRs that do not require a build

Pre-decisional

Model Results – Network Rate Pressure

1, 5, 10 and 20 Year Average Embedded Rate Impacts



	WOMR	I-5	Little Goose	WOMR & West of Garrison	Harney County	Northern Intertie	WOMR & LaGrande	WOMR & I-5	WOMR & Little Goose	WOMR, Little Goose & I-5	Consolidated
Rate Impact (1 YR)	1.52%	5.45%	1.14%	-1.44%	4.04%	3.58%	1.11%	2.87%	-2.09%	2.00%	12.76%
Rate Impact (5 YR)	1.21%	5.79%	1.13%	-1.58%	4.01%	3.59%	0.98%	3.06%	-2.26%	2.15%	12.89%
Rate Impact (10 YR)	1.51%	5.85%	1.12%	-1.78%	3.98%	3.59%	0.80%	2.90%	-2.50%	1.94%	12.65%
Rate Impact (20 YR)	1.29%	5.91%	1.11%	-2.16%	3.91%	3.61%	0.44%	2.52%	-2.97%	1.45%	12.11%

Projects

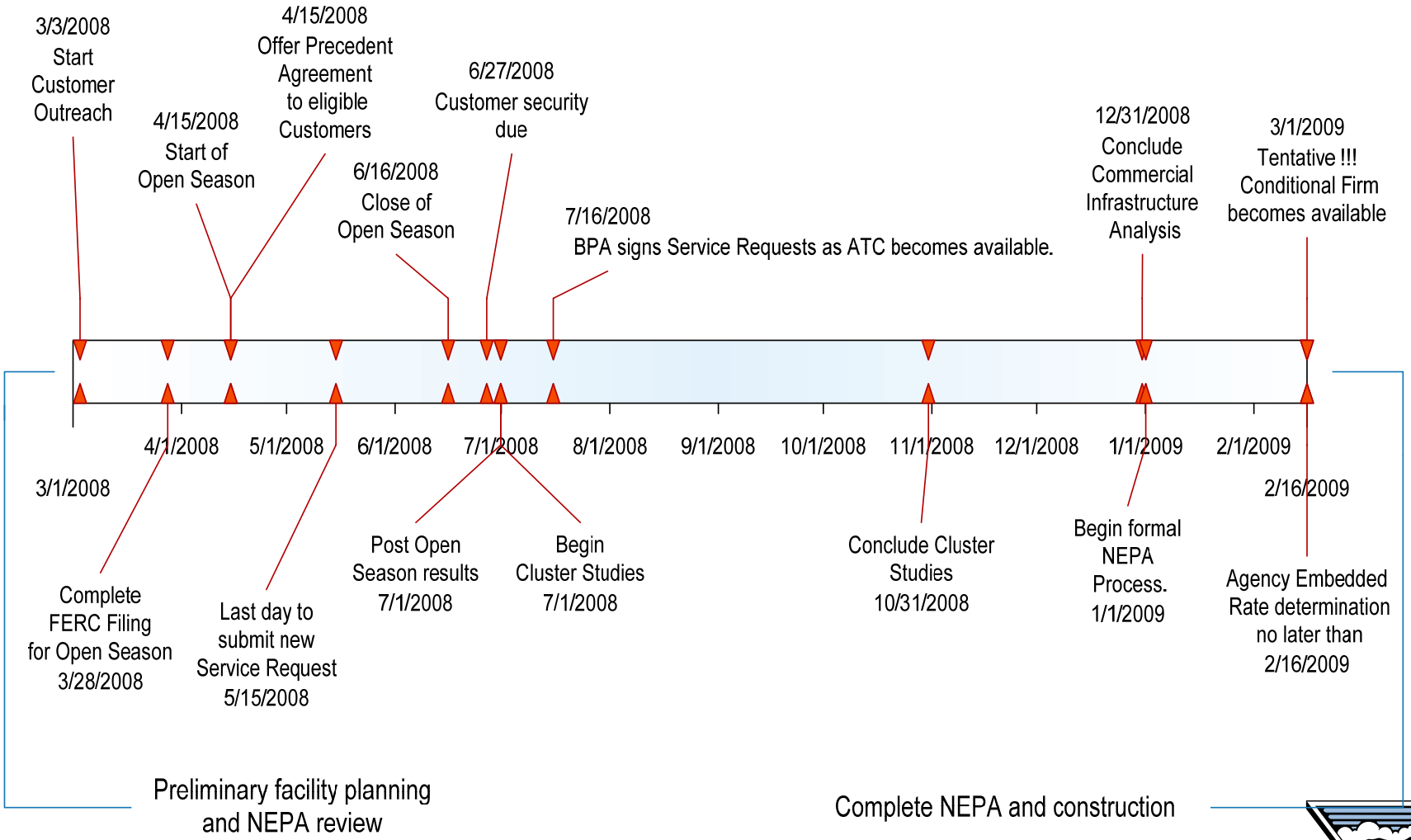
Proposed Criteria for Projects at Embedded Rates in the NOS

- Business/Finance:
  - *Acceptable cost/benefit and financial risk analysis that includes the stranded investment risk for speculative projects;*
  - *Consistency with BPA's financial plan and financial targets, rate case assumptions, and treasury payment probability;*
  - *Acceptable impact on rates beyond the current rate period;*
  - *Within budget allocation established for capital or expense and the year costs are obligated;*
  - *Acceptable impact on future capital adequacy;*
  - *Acceptable impact on efficient system operations and reliability;*
  - *Consistency with established transacting risk management parameters, cash flow and net revenue implications;*
  - *No adverse impact on BPA's bond rating*
- Legal:
  - *Consistent with BPA's organic statutes;*
  - *Understanding of the legal issues and the potential legal risks connected with the decision.*
- Environment: *Consistent with fish and wildlife goals, energy efficiency goals, renewable resource development, and global warming response policy.*
- Public Interests:
  - *Consideration of whether action supports public interests as defined by key agency stakeholders;*
  - *Supports transparency;*
  - *Creates an opportunity for public involvement;*
  - *Release plan considers customers, stakeholders, the Administration, publicly elected officials, and media perspectives.*
- BPA's People and Processes:
  - *Acceptable impact on BPA's human capital management plan and BPA's people and culture objectives;*
  - *Supports Agency workforce/workplace goals for leadership, talent, motivation/alignment and positive work environment:*
  - *Consistency with BPA policies, procedures, and internal controls.*

Next Steps

- Model the risks of the projects and revenues.
- Determine if there are other groupings to run financial analysis.
- Come back in January with results and proposed recommendation to the group.
- Determine the Regional Economic Benefits and determine if they should be included in the financial analysis.
- Refine reliability & future uses.

Network Open Season Timeline



Appendix A

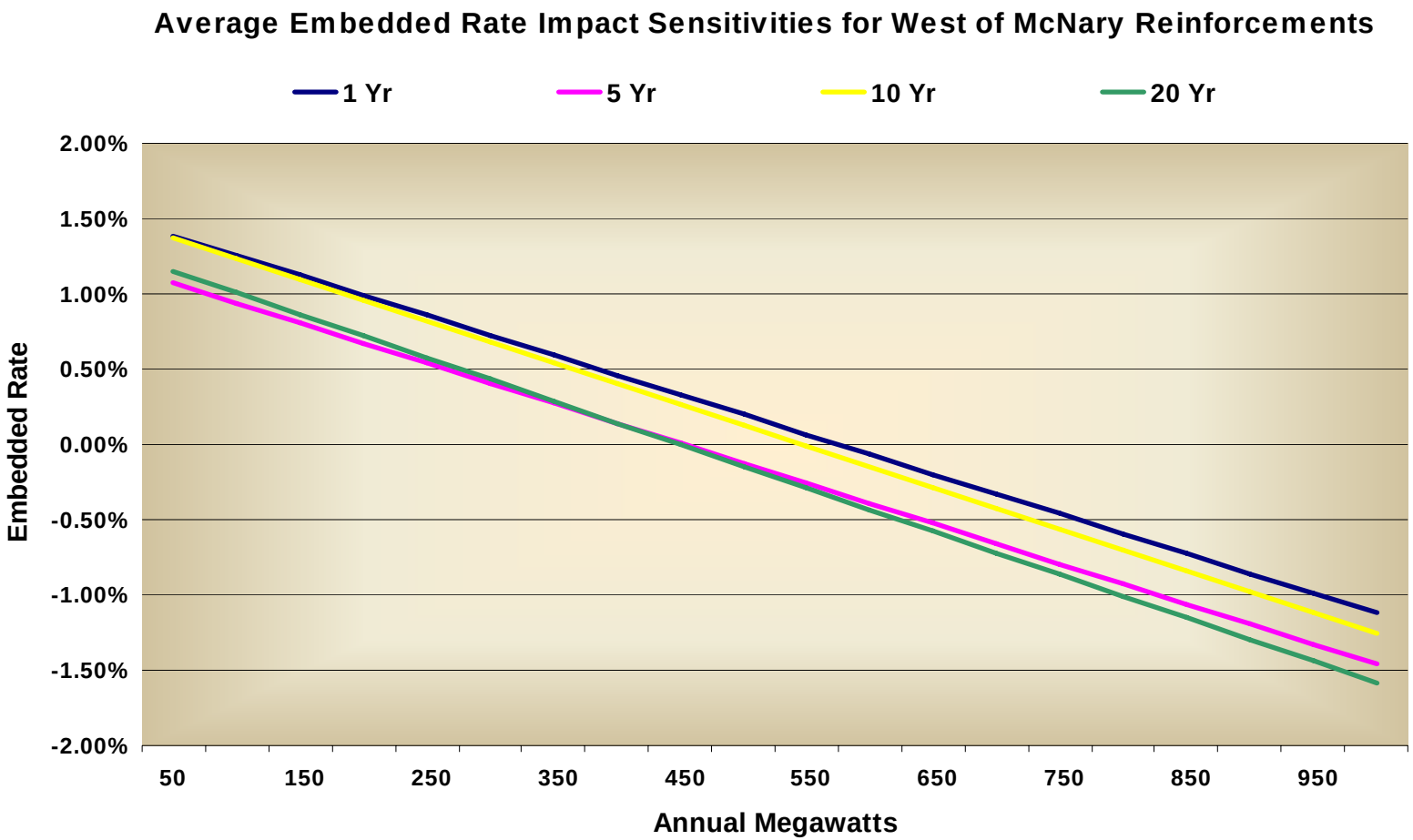
NOS Summary

November 21, 2008

Pre-decisional

Model Results- Project Detail

The chart below shows the sensitivity of the rate impact when additional revenues are modeled. The additional revenues are modeled by incremental Megawatts per year. The change in rate impact is displayed on a 1, 5, 10, and 20 year average.



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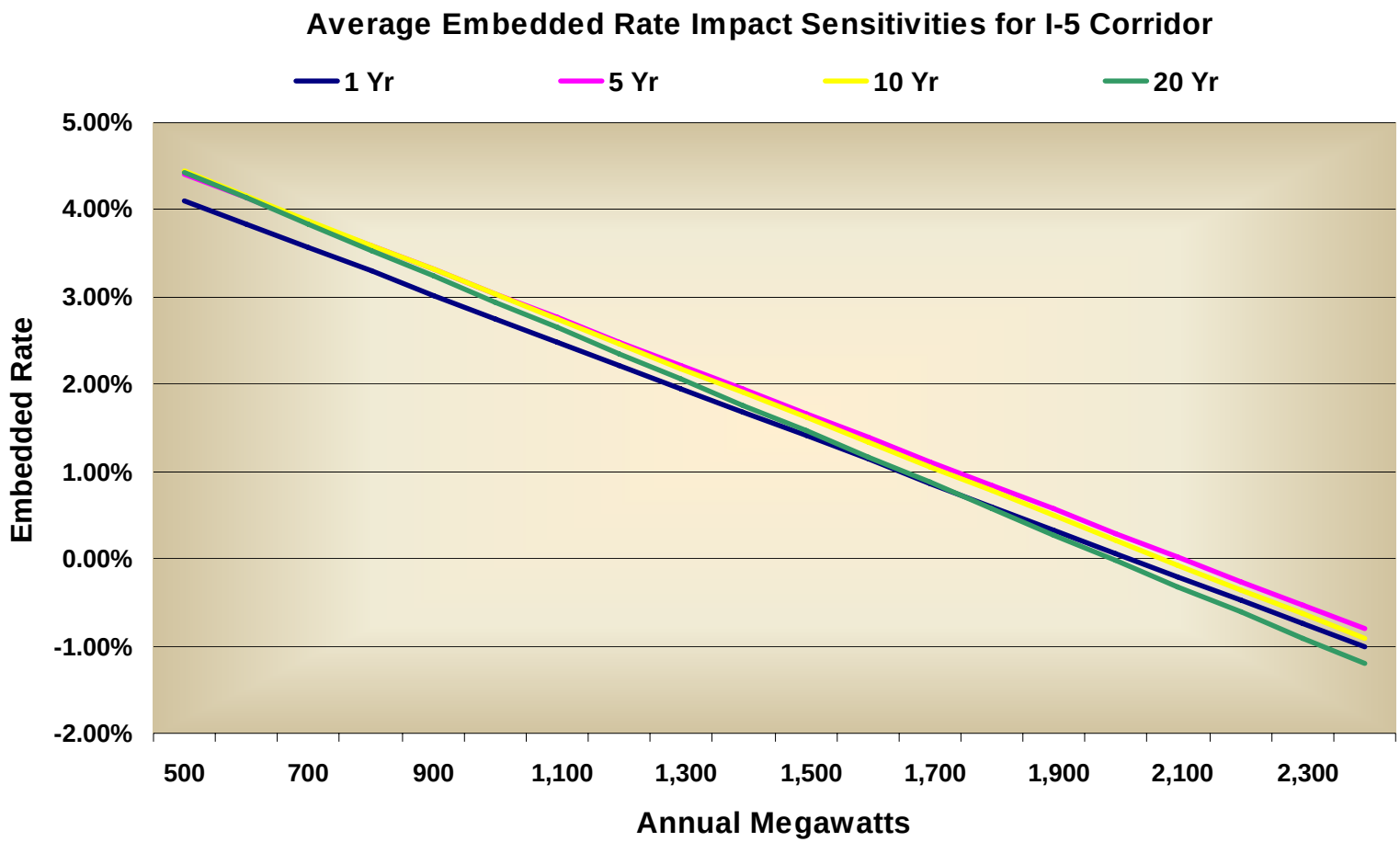

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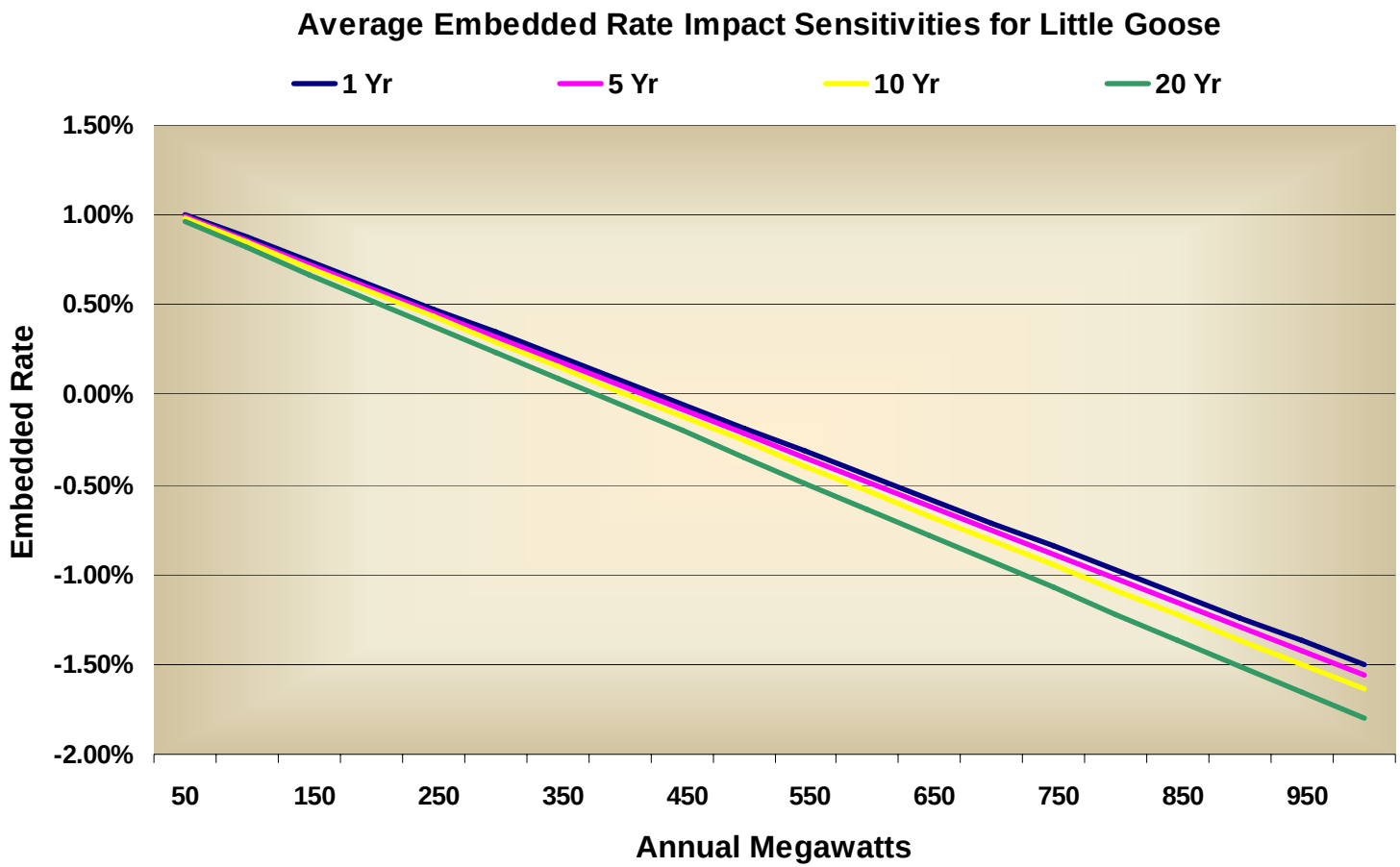

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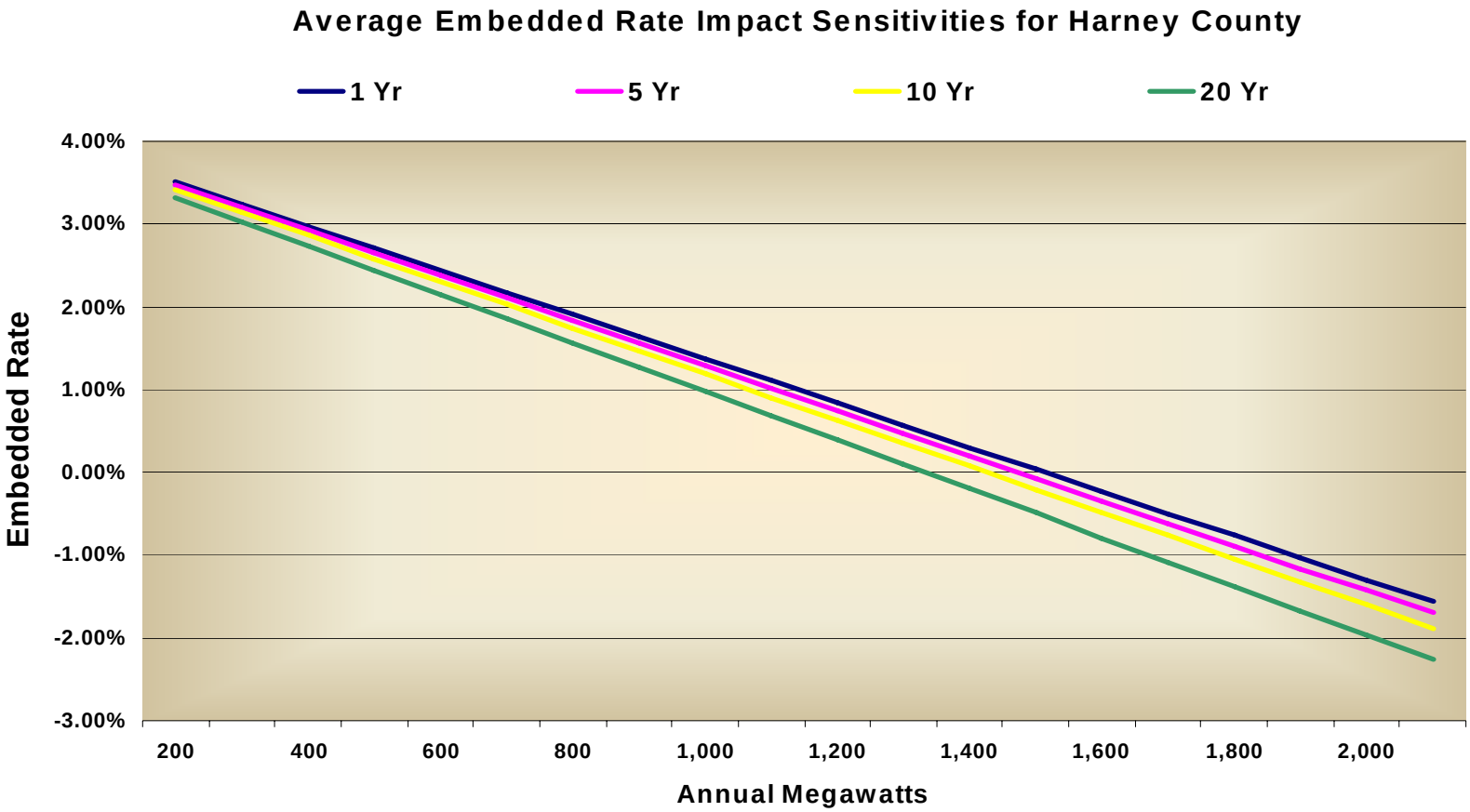

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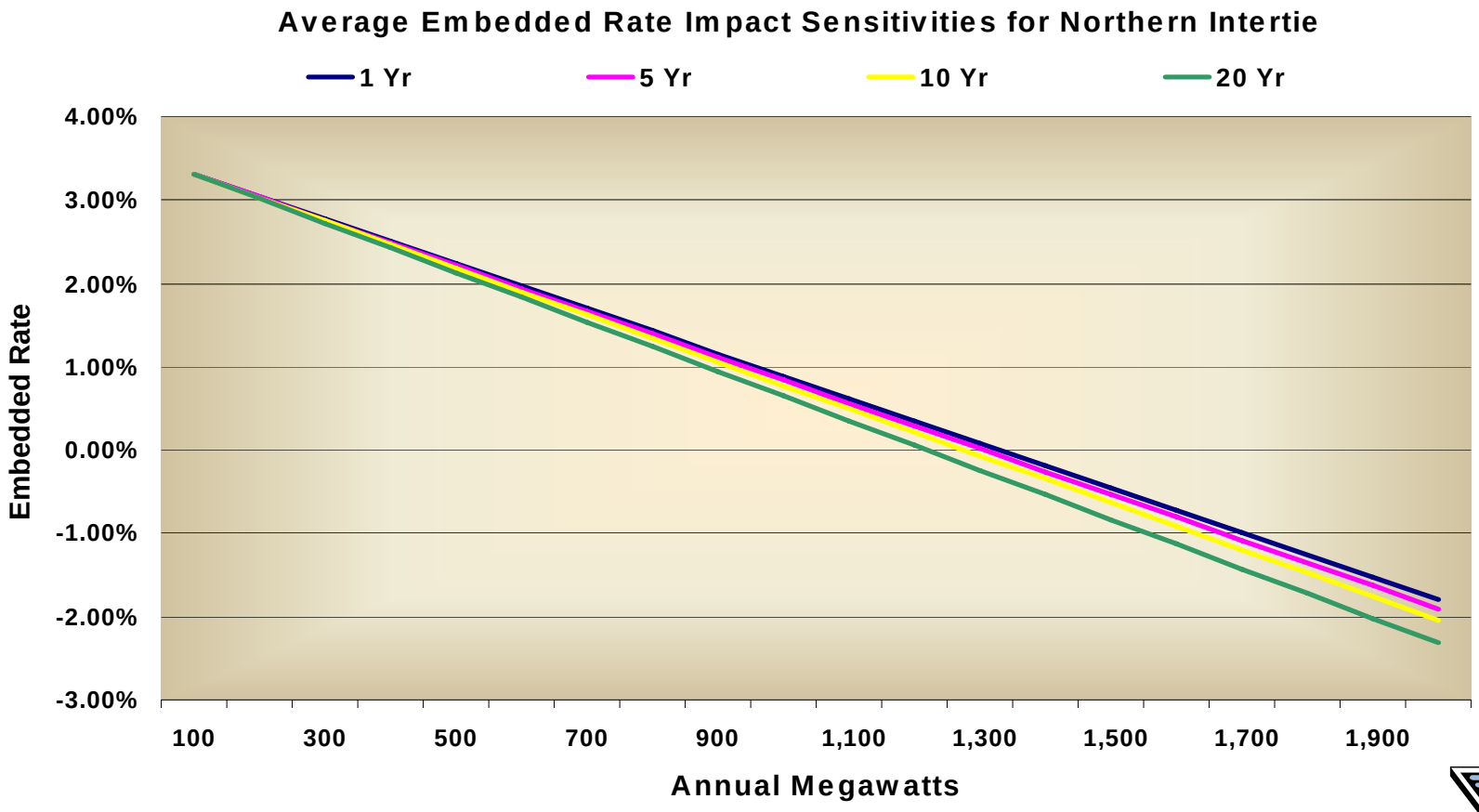

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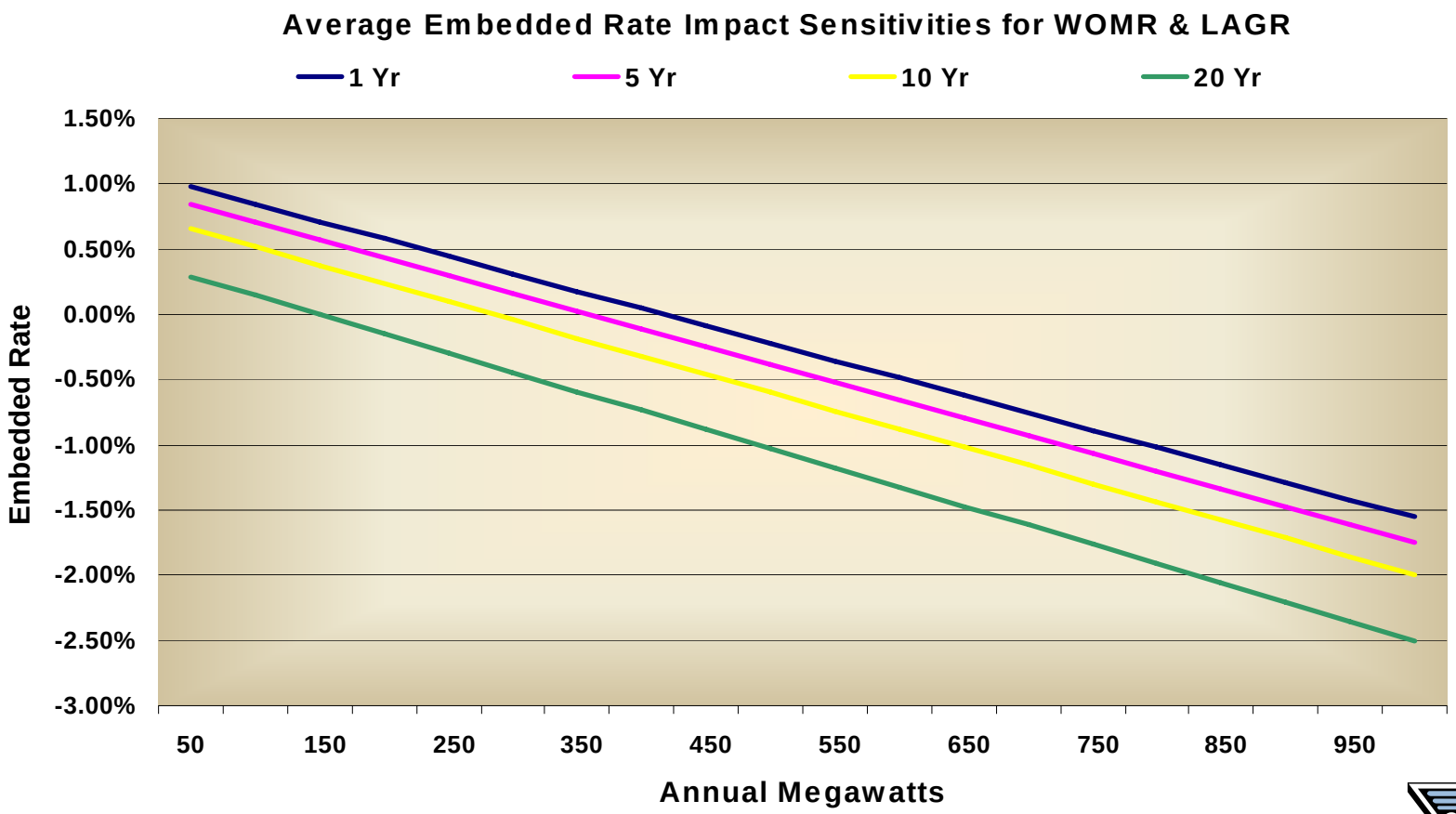

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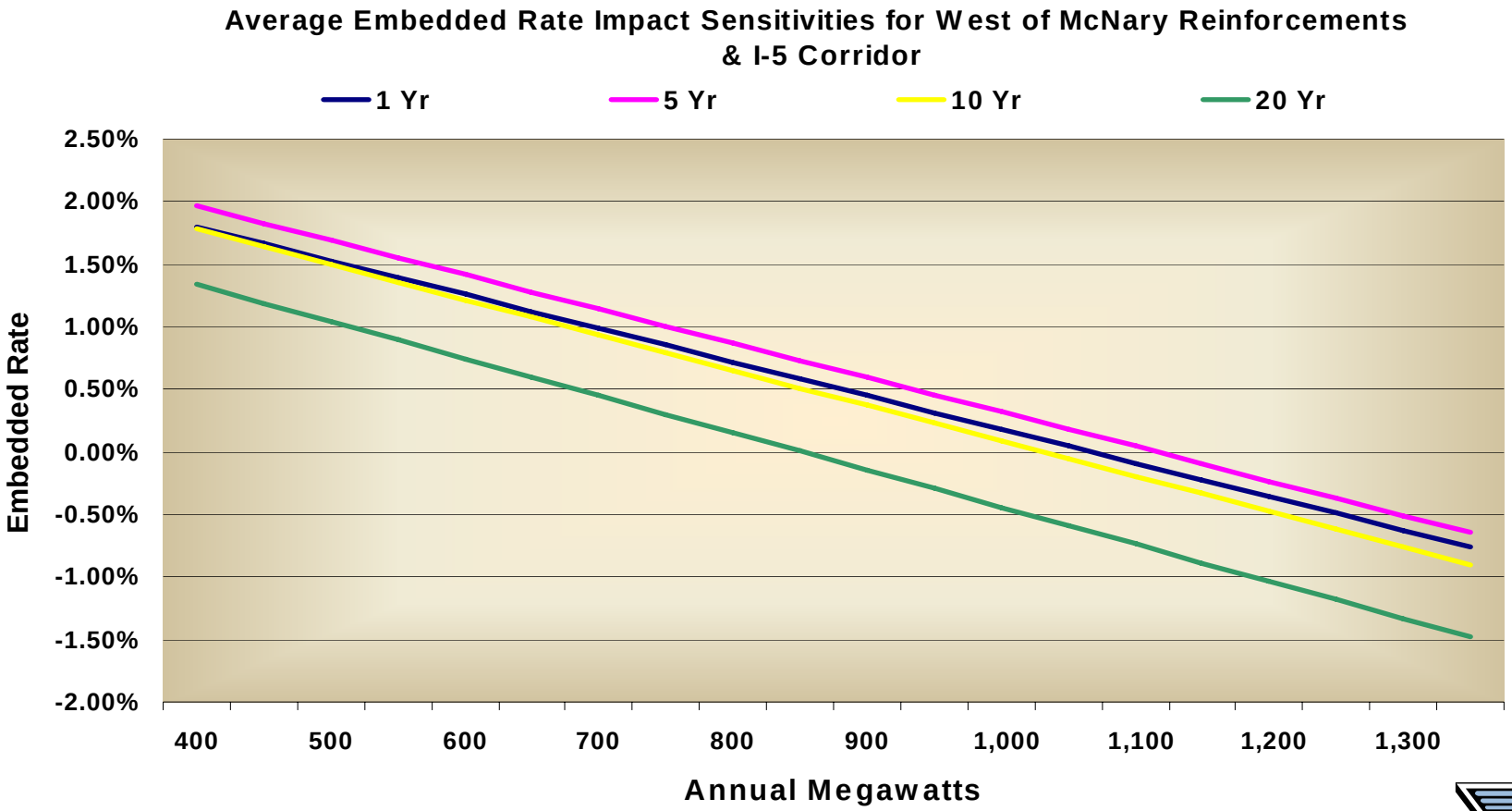

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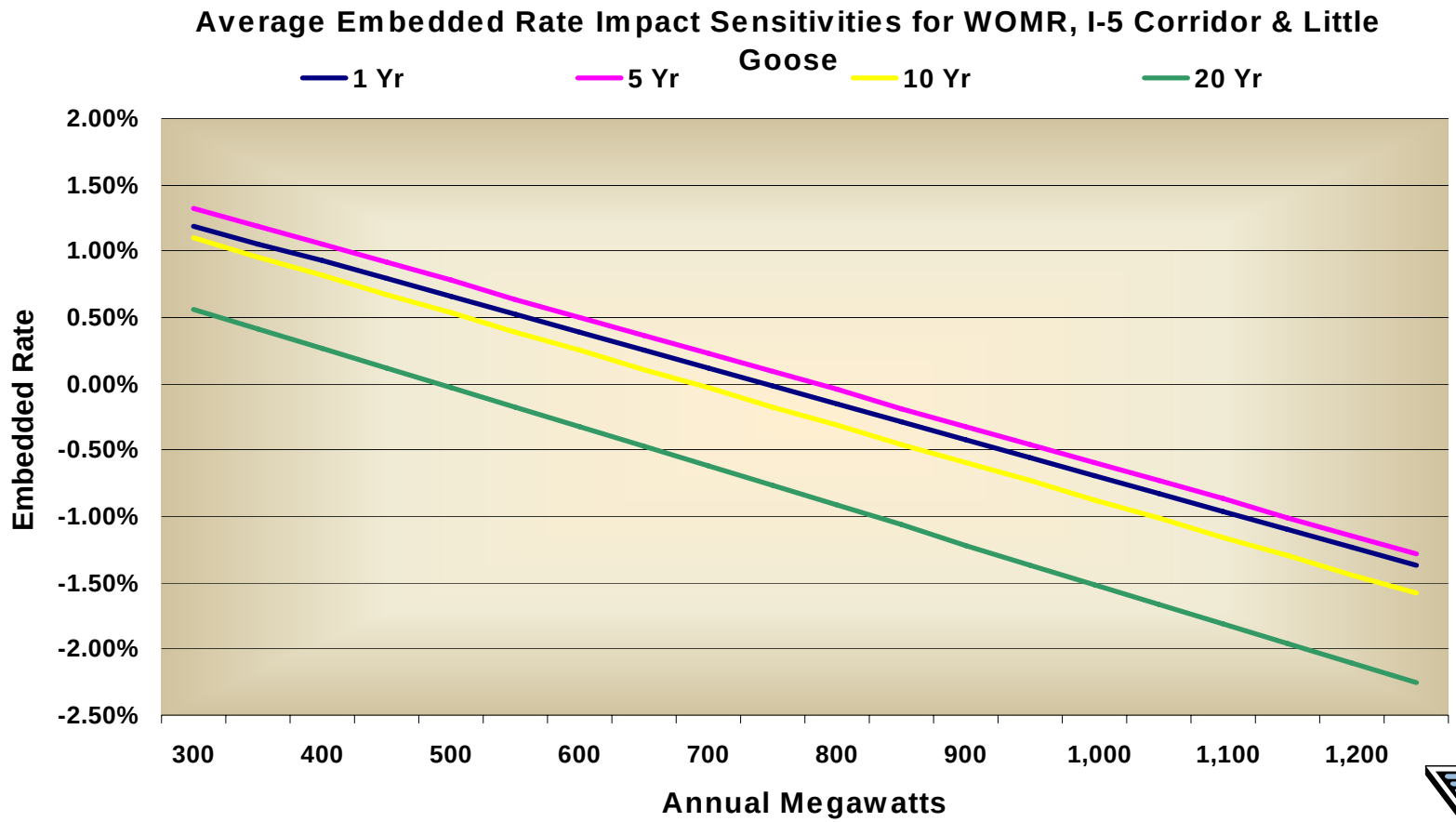
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