Integrated Resource Plan Public Advisory Group

Meeting 14 – July 19, 2018

EPE's Draft 2018 Integrated Resource Plan Report

The Electric Company
El Paso Electric

Meeting Agenda

- Welcome and Introduction
- Public Advisory Process and Meeting Schedule
- Presentation and Discussion of EPE's Draft 2018 IRP Report

Welcome and Introduction

Presenters for this Meeting

- Curtis Hutcheson: NM IRP Case Manager
- Omar Gallegos: Director of Resource Planning and Management
- Daniel Holguin: Senior Engineer, Resource Planning
- Myra Segal: Facilitator

Safe Harbor Statement

Certain matters discussed in this Integrated Resource Plan ("IRP") public advisory group presentation other than statements of historical information are "forward-looking statements" made pursuant to the safe harbor provisions of the Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Such statements are subject to a variety of risks, uncertainties and other factors, most of which are beyond El Paso Electric Company's ("EPE" or the "Company") control, and many of which could have a significant impact on the Company's operations, results of operations, and financial condition, and could cause actual results to differ materially from those anticipated. Additional information concerning factors that could cause actual results to differ materially from those expressed in forward-looking statements is contained in EPE's most recently filed periodic reports. Any such forward-looking statement is qualified by reference to these risks and factors. EPE cautions that these risks and factors are not exclusive.

Management cautions against putting undue reliance on forward-looking statements or projecting any future assumptions based on such statements. Forward-looking statements speak only as of the date of this IRP public advisory group presentation, and EPE does not undertake to update any forward-looking statement contained herein, except to the extent the events or circumstances constitute material changes in this IRP that are required to be reported to the New Mexico Public Regulation Commission ("NMPRC" or "Commission") pursuant to its IRP Rule, 17.7.3 New Mexico Administrative Code.

Ground Rules

Meeting Rules and Guidelines

- Discussion
  - Meeting format will be the presentation of the report with questions and discussion at the end
    - There will be another meeting August 2, 2018 for more discussion of the report
  - Skype attendees may type in a question or comments in instant message box
  - Facilitator will assist during discussion
  - **All public input and requests submitted in writing will be responded to in writing***
- Keep communications respectful and to the point

*Joint Stipulation Case No. 15-00241-UT

2018 PAG Meeting Schedule

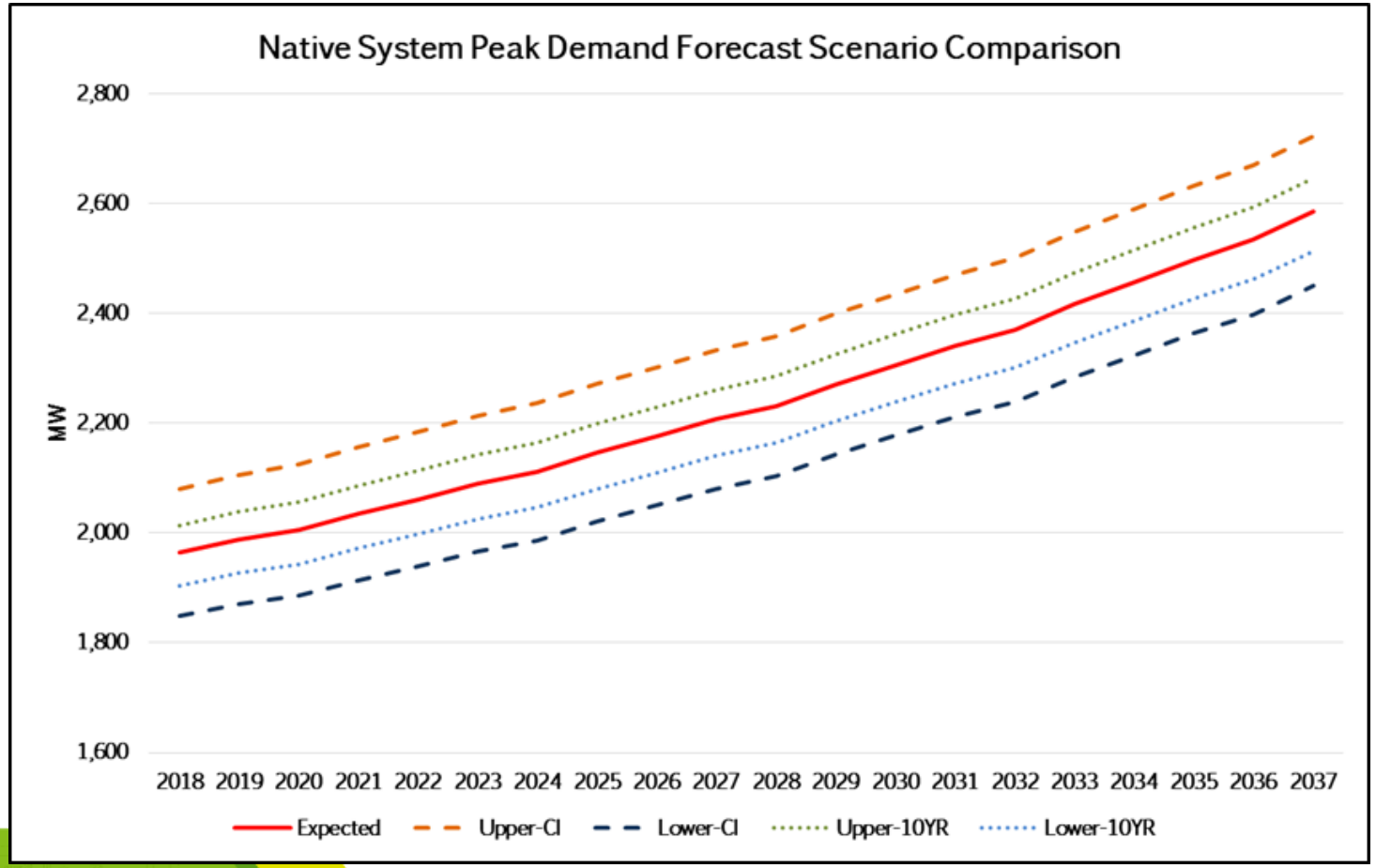
Meeting	Date	Description	Location
(14)	7/19/2018	PAG Meeting - Present Draft IRP	Dona Ana County Conference Room 117
(15)	8/2/2018	PAG Meeting - Receive and Respond to Public Feedback	Dona Ana County Conference Room 117
(16)	8/17/2018	PAG Meeting - Final IRP Presentation	Dona Ana County Conference Room 117
(17)	8/29/2018	PAG Meeting - Receive and Respond to Public Feedback	Dona Ana County Conference Room 117
	9/17/2018	**IRP Filing Date**	

Draft 2018 Integrated Resource Plan Report

Discussion of Report

Omar Gallegos

Director of Resource Planning and Management



Loads & Resources 2018-2037
Initial 2018 IRP

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1.0 GENERATION RESOURCES																				
1.1 RIO GRANDE	321	276	276	276	276	230	230	230	230	230	230	230	230	230	230	230	88	88	88	88
1.2 NEW MAN	752	752	752	752	752	602	602	602	602	278	278	278	278	278	278	278	278	278	278	278
1.3 COPPER	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	-	-	-	-	-
1.4 MONTANA	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354
1.5 PALO VERDE	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633
1.6 RENEWABLES	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1.7 STORAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.8 POSSIBLE EMERGING TECH EXPANSION[1]	-	-	-	-	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
1.9 NEW BUILD (local)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.0 TOTAL GENERATION RESOURCES[2]	2,130	2,085	2,085	2,085	2,125	1,929	1,929	1,929	1,929	1,605	1,605	1,605	1,605	1,541	1,541	1,541	1,399	1,399	1,399	1,399
2.0 RESOURCE PURCHASES																				
2.1 RENEWABLE PURCHASE (SunEdison & NRG)	29	29	29	29	28	28	28	28	27	27	27	27	27	26	26	26	26	26	25	25
2.2 RENEWABLE PURCHASE (Hatch)	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2.3 RENEWABLE PURCHASE (Macho Springs)	35	35	34	34	34	34	34	34	33	33	33	33	33	33	32	32	32	32	32	32
2.4 RENEWABLE PURCHASE (Juwi)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6
2.5 RESOURCE PURCHASE	-	-	-	-	10	-	-	30	65	105	45	90	130	-	-	5	-	-	-	20
2.0 TOTAL RESOURCE PURCHASES[4]	75	74	73	73	82	72	71	101	136	175	114	159	199	68	68	72	67	67	66	86
3.0 TOTAL NET RESOURCES (1.0 + 2.0)	2,205	2,159	2,158	2,158	2,207	2,001	2,000	2,030	2,065	1,780	1,719	1,764	1,804	1,609	1,609	1,613	1,466	1,466	1,465	1,485
4.0 SYSTEM DEMAND																				
4.1 NATIVE SYSTEM DEMAND	1,972	2,004	2,028	2,065	2,100	2,136	2,166	2,207	2,245	2,283	2,316	2,362	2,406	2,448	2,485	2,538	2,586	2,635	2,678	2,738
4.2 DISTRIBUTED GENERATION	(3)	(6)	(9)	(12)	(15)	(18)	(21)	(24)	(27)	(30)	(33)	(36)	(39)	(42)	(45)	(48)	(50)	(53)	(56)	(59)
4.3 ENERGY EFFICIENCY	(5)	(9)	(14)	(19)	(23)	(28)	(33)	(38)	(42)	(47)	(52)	(56)	(61)	(66)	(70)	(75)	(80)	(84)	(89)	(94)
4.4 LINE LOSSES	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
4.5 INTERRUPTIBLE SALES	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)
5.0 TOTAL SYSTEM DEMAND (4.1-(4.2+4.3+4.4+4.	1,904	1,928	1,945	1,973	2,001	2,028	2,050	2,084	2,114	2,145	2,169	2,209	2,244	2,279	2,308	2,354	2,395	2,436	2,472	2,524
6.0 MARGIN OVER TOTAL DEMAND (3.0 - 5.0)	301	231	213	184	207	(27)	(49)	(54)	(49)	(365)	(450)	(444)	(440)	(669)	(700)	(742)	(929)	(970)	(1,007)	(1,039)
7.0 PLANNING RESERVE 15%	286	289	292	296	300	304	307	313	317	322	325	331	337	342	346	353	359	365	371	379
8.0 MARGIN OVER RESERVE (6.0 - 7.0)	16	(58)	(78)	(112)	(94)	(332)	(357)	(367)	(367)	(686)	(775)	(775)	(777)	(1,011)	(1,046)	(1,095)	(1,288)	(1,336)	(1,378)	(1,418)

1. Emerging technologies may include customer or other distributed resources as well as additional community solar.
2. Generation unit retirements denoted by most recent planned retirement dates at start of the IRP process.
   Retirements planned within 5 years will be analyzed in the capacity expansion model per Joint Stipulation Case No. 15 00241 UT.
3. Rio Grande 6 capacity is denoted in the 2018 plant capacity total, pending conclusion of 2018 IRP.
   Previously identified as retired in 2014 and utilized as inactive reserve. Per Commission order in docket 17-00317-UT Rio Grande 6 is included.
4. Purchases based on existing and estimated future purchases including renewable purchases to meet RPS requirements.
5. System Demand based on 2018 Long-term and Budget Year Forecast.
   Includes state-required targets for Energy Efficiency.
   Interruptible load reflects current contracts.

Unit Retirements
Rio Grande 6 (45MW) - Denoted in 2018[3]
Rio Grande 7 (46MW) - December 2022
Newman 1 (74MW) - December 2022
Newman 2 (76MW) - December 2022
Newman 3 (97MW) - December 2026
Newman 4 CC (227MW) - December 2026
Copper (64MW) - December 2030
Rio Grande 8 (142MW) - December 2033

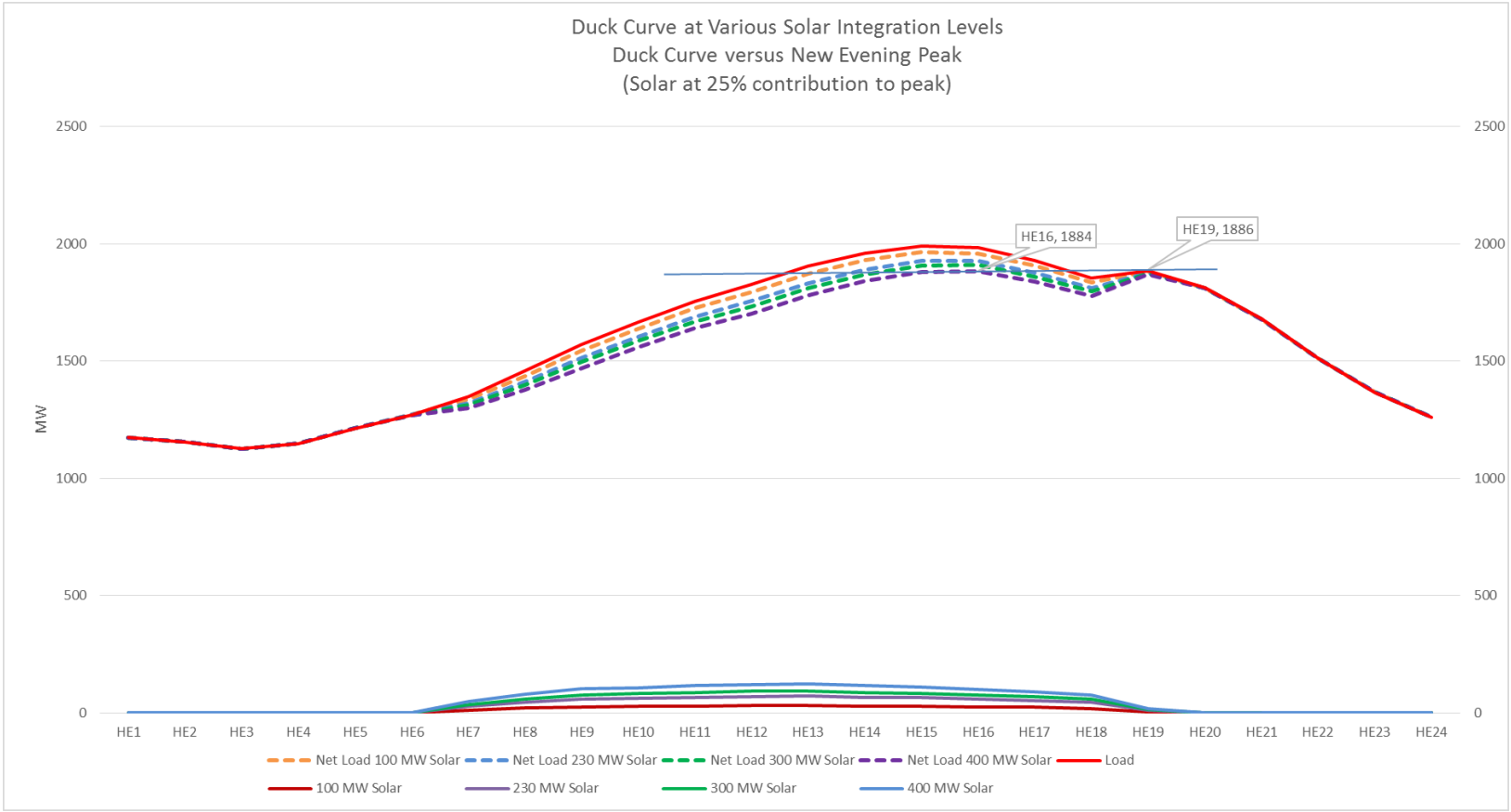
Renewable Purchases
SunEdison, NRG, Macho, Newman and Hatch solar purchases reflect 70% availability at Peak.

Company Owned Renewables
Renewable Resources shown in line item 1.6 consists of EPE Community Solar, Holloman Solar, EPCC, Stanton, Wrangler, Rio Grande & Newman Carports, and Van Horn

The Resource Purchase is supported by firm transmission through (i) simultaneous buy/sell with Freeport McMoRan (formerly Phelps Dodge), (ii) Four Corners switchyard after Four Corners retires, and (iii) SPS via the Eddy Tie.

Loads & Resources 2018-2037
Initial 2018 IRP

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1.0 GENERATION RESOURCES																				
1.1 RIO GRANDE	321	276	276	276	276	230	230	230	230	230	230	230	230	230	230	230	88	88	88	88
1.2 NEW MAN	752	752	752	752	752	602	602	602	602	278	278	278	278	278	278	278	278	278	278	278
1.3 COPPER	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	-	-	-	-	-
1.4 MONTANA	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354
1.5 PALO VERDE	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633
1.6 RENEWABLES	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1.7 STORAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.8 POSSIBLE EMERGING TECH EXPANSION[1]	-	-	-	-	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
1.9 NEW BUILD (local)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.0 TOTAL GENERATION RESOURCES[2]	2,130	2,085	2,085	2,085	2,125	1,929	1,929	1,929	1,929	1,605	1,605	1,605	1,605	1,541	1,541	1,541	1,399	1,399	1,399	1,399
2.0 RESOURCE PURCHASES																				
2.1 RENEWABLE PURCHASE (SunEdison & NRG)	29	29	29	29	28	28	28	28	27	27	27	27	27	26	26	26	26	26	25	25
2.2 RENEWABLE PURCHASE (Hatch)	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2.3 RENEWABLE PURCHASE (Macho Springs)	35	35	34	34	34	34	34	34	33	33	33	33	33	33	32	32	32	32	32	32
2.4 RENEWABLE PURCHASE (Juwi)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6
2.5 RESOURCE PURCHASE	-	-	-	-	10	-	-	30	65	105	45	90	130	-	-	5	-	-	-	20
2.0 TOTAL RESOURCE PURCHASES[4]	75	74	73	73	82	72	71	101	136	175	114	159	199	68	68	72	67	67	66	86
3.0 TOTAL NET RESOURCES (1.0 + 2.0)	2,205	2,159	2,158	2,158	2,207	2,001	2,000	2,030	2,065	1,780	1,719	1,764	1,804	1,609	1,609	1,613	1,466	1,466	1,465	1,485
4.0 SYSTEM DEMAND																				
4.1 NATIVE SYSTEM DEMAND	1,972	2,004	2,028	2,065	2,100	2,136	2,166	2,207	2,245	2,283	2,316	2,362	2,406	2,448	2,485	2,538	2,586	2,635	2,678	2,738
4.2 DISTRIBUTED GENERATION	(3)	(6)	(9)	(12)	(15)	(18)	(21)	(24)	(27)	(30)	(33)	(36)	(39)	(42)	(45)	(48)	(50)	(53)	(56)	(59)
4.3 ENERGY EFFICIENCY	(5)	(9)	(14)	(19)	(23)	(28)	(33)	(38)	(42)	(47)	(52)	(56)	(61)	(66)	(70)	(75)	(80)	(84)	(89)	(94)
4.4 LINE LOSSES	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
4.5 INTERRUPTIBLE SALES	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)
5.0 TOTAL SYSTEM DEMAND (4.1-(4.2+4.3+4.4+4.	1,904	1,928	1,945	1,973	2,001	2,028	2,050	2,084	2,114	2,145	2,169	2,209	2,244	2,279	2,308	2,354	2,395	2,436	2,472	2,524
6.0 MARGIN OVER TOTAL DEMAND (3.0 - 5.0)	301	231	213	184	207	(27)	(49)	(54)	(49)	(365)	(450)	(444)	(440)	(669)	(700)	(742)	(929)	(970)	(1,007)	(1,039)
7.0 PLANNING RESERVE 15%	286	289	292	296	300	304	307	313	317	322	325	331	337	342	346	353	359	365	371	379
8.0 MARGIN OVER RESERVE (6.0 - 7.0)	16	(58)	(78)	(112)	(94)	(332)	(357)	(367)	(367)	(686)	(775)	(775)	(777)	(1,011)	(1,046)	(1,095)	(1,288)	(1,336)	(1,378)	(1,418)



Year	Resource	Capacity	Contribution to Peak
2018			
2019			
2020			
2021			
2022	Solar PV	75	18.75
	Solar PV	75	18.75
	Solar PV	75	18.75
	Solar PV & Battery	100	25
		30	30
2023	Combined-Cycle	320	320
2024			
2025			
2026			
2027	Combined-Cycle	320	320
2028	Combustion Turbine	100	100

Year	Resource	Capacity	Contribution to Peak
2029			
2030			
2031	Combustion Turbine	100	100
	Battery Storage	50	50
	Battery Storage	50	50
2032			
2033	Reciprocating Engine	100	100
2034	Combustion Turbine	100	100
	Reciprocating Engine	100	100
2035			
2036	Solar PV & Battery	100	0
		30	30
2037	Biofuel	20	20
	Geothermal	20	20

Loads & Resources 2018-2037
2018 IRP Portfolio

					Solar/Batt 100/30 Solar 225	CC 320				CC 320	CT 100		Batt 100 CT 100			CT 100 Recip 100	Recip 100	Solar/Batt 100/30	Geo 20 Bio 20	
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1.0 GENERATION RESOURCES																				
1.1 RIO GRANDE	321	276	276	276	276	230	230	230	230	230	230	230	230	230	230	230	88	88	88	88
1.2 NEWMAN	752	752	752	752	752	602	602	602	602	278	278	278	278	278	278	278	278	278	278	278
1.3 COPPER	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	-	-	-	-	-
1.4 MONTANA	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354
1.5 PALO VERDE	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633	633
1.6 RENEWABLES	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1.7 Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.8 POSSIBLE EMERGING TECHNOLOGY EXPANSION	-	-	-	-	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
1.9 NEW BUILD (local)	-	-	-	-	-	320	320	320	320	640	740	740	740	940	940	1,040	1,240	1,240	1,240	1,280
1.0 TOTAL GENERATION RESOURCES [2]	**2,130**	**2,085**	**2,085**	**2,085**	**2,125**	**2,249**	**2,249**	**2,249**	**2,249**	**2,245**	**2,345**	**2,345**	**2,345**	**2,481**	**2,481**	**2,581**	**2,639**	**2,639**	**2,639**	**2,679**
2.0 RESOURCE PURCHASES																				
2.1 RENEWABLE PURCHASE (SunEdison & NRG)	29	29	29	29	28	28	28	28	27	27	27	27	27	26	26	26	26	26	25	25
2.2 RENEWABLE PURCHASE (Hatch)	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2.3 RENEWABLE PURCHASE (Macho Springs)	35	35	34	34	34	34	34	34	33	33	33	33	33	33	32	32	32	32	32	32
2.4 RENEWABLE PURCHASE (Juwi)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6
2.5 NEW RENEWABLE PURCHASE					111	111	111	111	111	111	111	111	111	111	111	111	111	111	141	141
2.6 RESOURCE PURCHASE	-	-	-	-	10	-		30	65	105	45	90	130	-	-	5	-	-	-	20
2.0 TOTAL RESOURCE PURCHASES [4]	**75**	**74**	**73**	**73**	**193**	**183**	**182**	**212**	**247**	**286**	**225**	**270**	**310**	**179**	**179**	**183**	**178**	**178**	**207**	**227**
3.0 TOTAL NET RESOURCES (1.0 + 2.0)	**2,205**	**2,159**	**2,158**	**2,158**	**2,318**	**2,432**	**2,431**	**2,461**	**2,496**	**2,531**	**2,570**	**2,615**	**2,655**	**2,660**	**2,660**	**2,764**	**2,817**	**2,817**	**2,846**	**2,906**
4.0 SYSTEM DEMAND																				
4.1 NATIVE SYSTEM DEMAND	**1,972**	**2,004**	**2,028**	**2,065**	**2,100**	**2,136**	**2,166**	**2,207**	**2,245**	**2,283**	**2,316**	**2,362**	**2,406**	**2,448**	**2,485**	**2,538**	**2,586**	**2,635**	**2,678**	**2,738**
4.2 DISTRIBUTED GENERATION	(3)	(6)	(9)	(12)	(15)	(18)	(21)	(24)	(27)	(30)	(33)	(36)	(39)	(42)	(45)	(48)	(50)	(53)	(56)	(59)
4.3 ENERGY EFFICIENCY	(5)	(9)	(14)	(19)	(23)	(28)	(33)	(38)	(42)	(47)	(52)	(56)	(61)	(66)	(70)	(75)	(80)	(84)	(89)	(94)
4.4 LINE LOSSES	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
4.5 INTERRUPTIBLE SALES	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)	(54)
5.0 TOTAL SYSTEM DEMAND (4.1-(4.2+4.3+4.4+4.5)) [6]	**1,904**	**1,928**	**1,945**	**1,973**	**2,001**	**2,028**	**2,050**	**2,084**	**2,114**	**2,145**	**2,169**	**2,209**	**2,244**	**2,279**	**2,308**	**2,354**	**2,395**	**2,436**	**2,472**	**2,524**
6.0 MARGIN OVER TOTAL DEMAND (3.0 - 5.0)	**301**	**231**	**213**	**184**	**318**	**404**	**382**	**377**	**382**	**386**	**401**	**407**	**411**	**382**	**351**	**409**	**422**	**381**	**374**	**382**
7.0 PLANNING RESERVE 15% OF TOTAL SYSTEM DEM	**286**	**289**	**292**	**296**	**300**	**304**	**307**	**313**	**317**	**322**	**325**	**331**	**337**	**342**	**346**	**353**	**359**	**365**	**371**	**379**
8.0 MARGIN OVER RESERVE (6.0 - 7.0)	**16**	**(58)**	**(78)**	**(112)**	**17**	**99**	**74**	**64**	**64**	**65**	**76**	**76**	**74**	**40**	**5**	**56**	**63**	**15**	**3**	**3**

For More Information

- EPE's IRP website https://www.epelectric.com/community/2017-18-public-advisory-group-meetings
- E-mail NMIRP@epelectric.com to be added to the Public Advisory Group e-mail distribution list. You will receive updates on available presentation material and future meetings. Questions can also be submitted to this e-mail.

Appendix

PROVIEW LEAST COST OPTIMIZATION SYSTEM
PLANNING PERIOD PLAN COMPARISON
2018 IRP BASE CASE STRATEGIST OUTPUT

PLAN RANK	1	2	3	4	5	6	7	8
2018								
2019								
2020								
2021								
2022	75S (3)	25S (1)	25S (1)	25S (1)	25S (1)	25S (1)	25S (1)	25S (1)
	PVBS(1)	75S (3)	75S (3)	75S (3)	75S (3)	75S (3)	75S (3)	75S (3)
		100S(1)	100S(1)	100S(1)	100S(1)	100S(1)	100S(1)	100S(1)
		STOR(1)	STOR(1)	STOR(1)	STOR(1)	STOR(1)	STOR(1)	STOR(1)
2023	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)
2024								
2025								
2026								
2027	CC_M(1)	27PV(1)	27PV(1)	27PV(1)	27PV(1)	27PV(1)	27PV(1)	27PV(1)
		CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)
		RCP1(1)	RCP2(2)	RCP1(1)	RCP2(2)	RCP1(1)	RCP2(2)	RCP1(1)
		BS1G(1)	BS1G(1)	BS1G(1)	BS1G(1)	BS1G(1)	BS1G(1)	BS1G(1)
2028	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)
2029								
2030								
2031	CT_L(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)	CC_M(1)
	BS1G(2)							
2032								
2033	RCP1(1)							
2034	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)	CT_L(1)
	RCP1(1)	RCP1(1)	RCP1(1)	RCP1(1)	RCP1(1)	RCP1(1)	RCP1(1)	RCP1(1)
2035		BS1G(1)	BS1G(1)	PVS (1)	PVS (1)	BS1G(1)	BS1G(1)	PVS (1)
2036	PVS (1)	PVS (1)	PVS (1)	BS1G(1)	BS1G(1)	PVS (1)	PVS (1)	BS1G(1)
2037	BIO1(1)	BIO1(1)	BIO1(1)	BIO1(1)	BIO1(1)	GEO1(1)	GEO1(1)	GEO1(1)
	GEO1(1)							
P.V. UTILITY COST:								
PLANNING PERIOD	3247443.5	3248019.5	3248019.8	3248141.8	3248141.8	3248264.8	3248265.0	3248387.0
% DIFFERENCE	0.00%	0.02%	0.02%	0.02%	0.02%	0.03%	0.03%	0.03%
STUDY PERIOD RANK	1	2	3	4	5	6	7	8