

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**



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Order Instituting Rulemaking to Continue  
Implementation and Administration, and  
Consider Further Development of, California  
Renewables Portfolio Standard Program

Rulemaking 15-02-020  
(Filed February 26, 2015)

**SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E)  
RENEWABLE AUCTION MECHANISM PROGRAM  
ANNUAL COMPLIANCE REPORT**

**(PUBLIC VERSION)**

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February 12, 2016

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (the “Commission”) and Commission Decision 10-12-048,<sup>1</sup> San Diego Gas & Electric company (“SDG&E) hereby submits its annual compliance report (“Report) detailing data, information and evaluation on relevant aspects of its Renewable Auction Mechanism (“RAM”) program. The Report is provided herewith as Attachment A.

Respectfully submitted this 12th day of February, 2016.

By:     /s/ Paul A. Szymanski    

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<sup>1</sup> D.10-12-048, mimeo, p. 95, Ordering Paragraph 4.



**ATTACHMENT A**

**RENEWABLE AUCTION MECHANISM PROGRAM**

**ANNUAL COMPLIANCE REPORT**

**(PUBLIC VERSION)**

# SAN DIEGO GAS & ELECTRIC COMPANY RENEWABLE AUCTION MECHANISM PROGRAM 2016 ANNUAL COMPLIANCE REPORT

## I. INTRODUCTION

In Decision (“D.”) 10-12-048 (the “RAM Decision”), the Commission adopted a new procurement process, the Renewable Auction Mechanism (“RAM”), to procure renewable energy from projects 20 megawatts (“MW”) or less that are eligible under the California Renewables Portfolio Standard (“RPS”). The RAM Decision ordered San Diego Gas & Electric Company (“SDG&E”), Southern California Edison Company (“SCE”), and Pacific Gas and Electric Company (“PG&E”) to implement the RAM, procure a total of 1,000 MW allocated across the utilities consistent with the “Existing FIT” allocation, hold four competitive auctions over a two-year period, and use standard non-negotiable contracts.<sup>1</sup> The RAM Decision instructed the three investor-owned utilities (“IOUs”) to file an annual compliance report on the status of the RAM program.<sup>2</sup> The purpose of the report is to allow the Commission’s Energy Division to monitor the RAM program and recommend modifications based on evidence, if and as necessary.<sup>3</sup>

The RAM Decision also directed the IOUs to submit their bidding protocols and standard contracts through a Tier 3 advice letter (“AL”) in order to implement the RAM Decision’s requirements. Pursuant to D.10-12-048, on February 25, 2011, SDG&E filed AL 2232-E seeking approval of its bidding protocols, standard power purchase agreements (“PPAs”), proposed new program details, and standard terms and conditions that were not addressed in the RAM Decision. On August 18, 2011 the Commission issued Resolution E-4414 adopting implementation details, bidding protocols and PPAs for each IOU.

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<sup>1</sup> In D.12-02-002, the Commission approved transfer of 74 MW from SDG&E’s Solar Energy Program (“SEP”) into RAM. In D.12-02-035, it approved transfer of 225 MW from SCE’s Solar Photovoltaic Program (“SPVP”) into RAM. In D.13-05-033, it approved transfer of 31 MW from the utility-owned generation (“UOG”) portion of SCE’s SPVP into RAM, bringing the total RAM procurement goal to 1,330 MW of capacity.

<sup>2</sup> D.10-12-048, *mimeo*, p. 95, Ordering Paragraph 4.

<sup>3</sup> *Id.*

On September 19, 2011, SDG&E filed AL 2232-E-A which attached SDG&E's 2011 RAM request for offers ("RFO") document and a RAM PPA, as directed by D.10-12-048, and to demonstrate compliance with Ordering Paragraphs 2 through 37 of Resolution E-4414. On September 26, 2011, SDG&E filed AL 2232-E-B which corrected a mistake in SDG&E's 2011 RAM RFO document. On October 25, 2011, AL 2232-E-C was filed to correct and amend SDG&E's 2011 RAM RFO document and RAM PPA to be in full compliance with Resolution E-4414.

On November 1, 2011, SDG&E began accepting bids for its first RAM auction ("RAM I"). On April 19, 2012, the Commission adopted Resolution E-4489, which approved changes to the RAM program. On April 26, 2012, SDG&E submitted AL 2349-E, which implemented changes to the RAM program forum agenda, attached modified RAM RFO solicitation protocols, and a modified RAM PPA demonstrating compliance with the RAM program changes ordered by Resolution E-4489. On May 15, 2012, SDG&E accepted bids for its second RAM auction ("RAM II"). On November 8, 2012, the Commission adopted Resolution E-4546, which approved additional changes to the RAM program. On November 15, 2012, SDG&E submitted AL 2421-E, which attached modified RAM RFO solicitation protocols and a modified RAM PPA demonstrating compliance with the RAM program changes ordered by Resolution E-4546.

On December 3, 2012, SDG&E accepted bids for its third RAM auction ("RAM III"). On December 18, 2012, SDG&E filed AL 2437-E requesting an expansion of the RAM program to allow projects located in the service territory of the Imperial Irrigation District ("IID"), thereby modifying the RAM locational requirement that only projects located within one of the service territories of the IOUs are eligible for RAM. SDG&E's requested modification of the RAM program was rejected by the Energy Division on April 11, 2014. On May 9, 2013, the Commission adopted Resolution E-4582 which modified the capacity allocation targets for the fourth RAM auction ("RAM IV") and authorized a fifth RAM auction ("RAM V"). On May 16, 2013, SDG&E submitted AL 2481-E, which attached modified RAM RFO solicitation protocols

and a modified RAM PPA demonstrating compliance with the RAM program changes ordered by Resolution E-4582.

On June 3, 2013, SDG&E accepted bids for RAM IV. On May 15, 2014, the Commission adopted Resolution E-4655, which approved additional changes to the RAM program. On May 29, 2014, SDG&E submitted AL 2608-E, which attached modified RAM RFO solicitation protocols and a modified RAM PPA demonstrating compliance with the RAM program changes ordered by Resolution E-4655. On June 2, 2014, SDG&E accepted bids for RAM V. On November 24, 2014, the Commission issued D.14-11-042, which required the IOUs to hold a sixth RAM auction (“RAM VI”), which will function as a transitional auction. On March 19, 2015, SDG&E submitted AL 2717-E which attached modified RAM RFO solicitation protocols and modified the RAM PPA for RAM VI, in compliance with D.14-11-042 and D.15-01-051. As a part of its RAM VI solicitation SDG&E also solicited bids for additional solar capacity for its SunRate program as ordered by D.15-01-051. On July 13, 2015, SDG&E accepted bids for RAM VI. Thereafter, the IOUs have the option to use RAM as a procurement tool as revised and set forth in D.14-11-042. The RAM Decision directs that each year, each IOU must file data, information, and evaluation in a report on relevant aspects of the RAM.<sup>4</sup> Each report must include information to monitor program design and elements. Specifically, the report must include information, data, and evaluation with respect to: (i) competition; (ii) competitiveness; and (iii) auction design. The Commission further directed that the first report include information and recommendations on a definition of competition generally, a definition of competition in this market specifically, and measures of competition. In addition, as data becomes available, reports shall contain information described in the RAM Decision, including but not limited to: (i) measures of market competition; (ii) measures of market power; (iii) seller concentration; (iv) data on each auction (based on all bidders); (v) data on each auction (based on

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<sup>4</sup> *Id.*

projects selected); and (vi) any other data necessary to present a complete report. SDG&E presents the information and evaluation required under the RAM decision in Section II below.

## **II. INFORMATION REGARDING SDG&E'S RAM PROGRAM**

### ***A. Documentation of All Solicitations Issued for PPAs***

#### ***a. Auction Design***

SDG&E has issued six competitive RFO solicitations under the RAM program.

#### ***b. Auction Timing***

On November 1, 2011, SDG&E began accepting offers for RAM I, with an offer deadline of November 15, 2011. On May 15, 2012, SDG&E began accepting offers for RAM II, with an offer deadline of May 31, 2012. On December 3, 2012, SDG&E began accepting offers for RAM III, with an offer deadline of December 21, 2012. On June 3, 2013, SDG&E began accepting offers for RAM IV, with an offer deadline of June 28, 2013. On June 2, 2014, SDG&E began accepting offers for RAM V, with an offer deadline of June 27, 2014. On July 13, 2015, SDG&E began accepting offers for RAM VI, with an offer deadline of August 21, 2015.

#### ***c. Time Necessary to Complete Projects***

RAM I PPAs require commercial operation dates no more than 18 months from CPUC approval, plus up to six months extension for regulatory delays not caused by Seller; RAM II, RAM III, RAM IV, RAM V and RAM VI PPAs require commercial operation dates no more than 24 months from CPUC approval, plus up to a six month extension for regulatory delays not caused by Seller.

**B. Description of All Offers Received from the RAM Solicitations, Including:**

**a. For all Offers:**

**i. Name of Offeror, Number of Bids per Offeror (conforming and non-conforming), Number of Shortlisted Bids per Offeror, (public)**

RAM Solicitation	Seller's Name	Number of bids Submitted	Number of Bids Shortlisted
RAM I	Bena Power Producers LLC	1	
RAM I	BP Solar Energy North America	1	
RAM I	Eurus Energy America	1	
RAM I	First Solar Development, Inc.	4	
RAM I	GASNA 28P ("Helm DES")	1	
RAM I	Gestamp Asetym Solar North America, Inc.	1	
RAM I	Industry Solar Power Generation Station 1 LLC	1	
RAM I	Infigen Energy	1	
RAM I	Lincoln Renewable Energy, LLC	2	
RAM I	MM San Diego LLC	1	
RAM I	Recurrent Energy	5	
RAM I	Rockland Capital, LLC	1	
RAM I	Silverado Power	2	2
RAM I	Solar Electric Solutions LLC	2	
RAM I	Solar Monkey	1	
RAM I	SR Solis	3	
RAM I	SunEdison, LLC	2	
RAM I	TUUSSO Energy, LLC	1	
RAM I	Valos Solar Ventures, LLC	1	
RAM II	AES	1	
RAM II	Beautiful Earth Group	1	1
RAM II	BP Solar	1	
RAM II	Bull Moose	2	
RAM II	enXco	4	
RAM II	Fortistar	2	2
RAM II	Gestamp	6	
RAM II	Infigen	4	
RAM II	Inupiat	6	

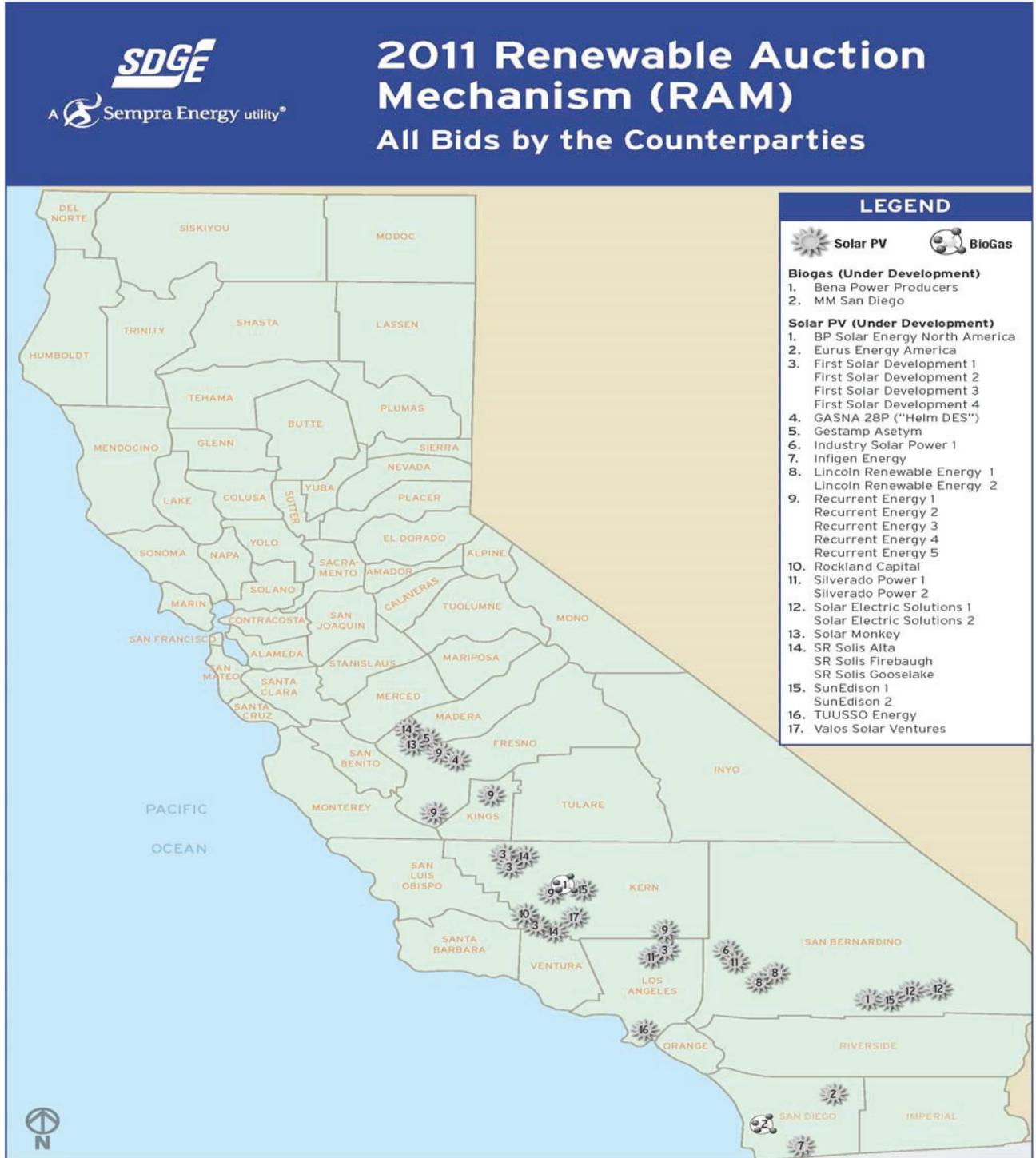
RAM II	Monument Power	2	
RAM II	NRG Solar	1	
RAM II	Ormat	2	
RAM II	Pristine Sun	4	1
RAM II	Recurrent Energy	9	
RAM II	Silverado Power	12	
RAM II	Solar Monkey	2	
RAM II	Solar Reserve	2	
RAM II	SPI	2	
RAM II	SPS	3	
RAM II	SunEdison	10	1
RAM II	Sustainable through Innovation	1	1
RAM II	Valos Solar Ventures	1	
RAM II	Windland	1	
RAM III	8Minute Energy	3	
RAM III	Altamont Winds LLC's	1	
RAM III	Bull Moose	2	
RAM III	Crown Disposal Co.	1	
RAM III	E.ON Climate Renewables	1	1
RAM III	EDF Renewable Energy	2	
RAM III	Energy Recovery Solutions	1	
RAM III	First Solar	3	
RAM III	Gestamp	8	
RAM III	Gradient Resource	1	
RAM III	Hanwha Solar Energy	2	
RAM III	Iberdrola	2	
RAM III	Infigen Energy	2	
RAM III	LS Power	2	
RAM III	NextEra Energy Resources	2	
RAM III	Northlight Power	2	1
RAM III	NRG	2	
RAM III	Recurrent Energy	9	
RAM III	Silverado Power	24	1
RAM III	Solar Electric Solutions, LLC	1	
RAM III	Solar Project Solutions	1	
RAM III	Solar Reserve	5	
RAM III	STC Hydro Power	1	
RAM III	Sun Edison	3	

RAM III	Tenaska Solar	2	
RAM III	Terra-Gen Power	7	2
RAM III	Whitewater Energy	2	
RAM III	Windland Inc	1	
RAM IV	8minutenergy Renewables	2	
RAM IV	EDF Renewable Energy	9	
RAM IV	EC&R NA Solar PV, LLC	2	
RAM IV	Cielo Del Sol, LLC	2	
RAM IV	Kingbird Solar, LLC	4	
RAM IV	Portal Ridge Solar, LLC	4	
RAM IV	Gestamp Asetym Solar North America, Inc.	5	
RAM IV	Hanwha Q Cells USA	1	
RAM IV	Rio Bravo Solar I, LLC	1	
RAM IV	Wildwood Solar II, LLC	1	
RAM IV	Native American Energy Resources, LLC	1	
RAM IV	NextEra Energy Resources, LLC	4	
RAM IV	Solar Projects Solutions, LLC	1	
RAM IV	NorthLight Power, LLC	2	
RAM IV	NRG Solar LLC	1	
RAM IV	NRG Solar LLC with Volt Energy as DBE partner	1	
RAM IV	OCI Solar Power LLC	1	
RAM IV	Adera Solar, LLC	1	
RAM IV	Pristine Sun, LLC	4	
RAM IV	Recurrent Energy	2	
RAM IV	Sempra U.S. Gas & Power	1	
RAM IV	Silverado Power LLC	21	
RAM IV	GCL-SR Solar Energy, LLC	2	
RAM IV	SRPV, LLC	1	
RAM IV	SolarReserve, LLC	1	
RAM IV	SunEdison	3	2
RAM IV	Terra-Gen Power, LLC	2	
RAM IV	SKIC Solar, LLC	1	
RAM IV	AES Tehachapi Wind, LLC	1	1
RAM IV	Altamont Winds Inc.	2	
RAM IV	Brookfield Energy Marketing, LP	2	
RAM IV	Bull Moose Energy, LLC	1	
RAM IV	Energy Development and Construction Corporation	2	
RAM IV	New Dimension Energy Company	2	

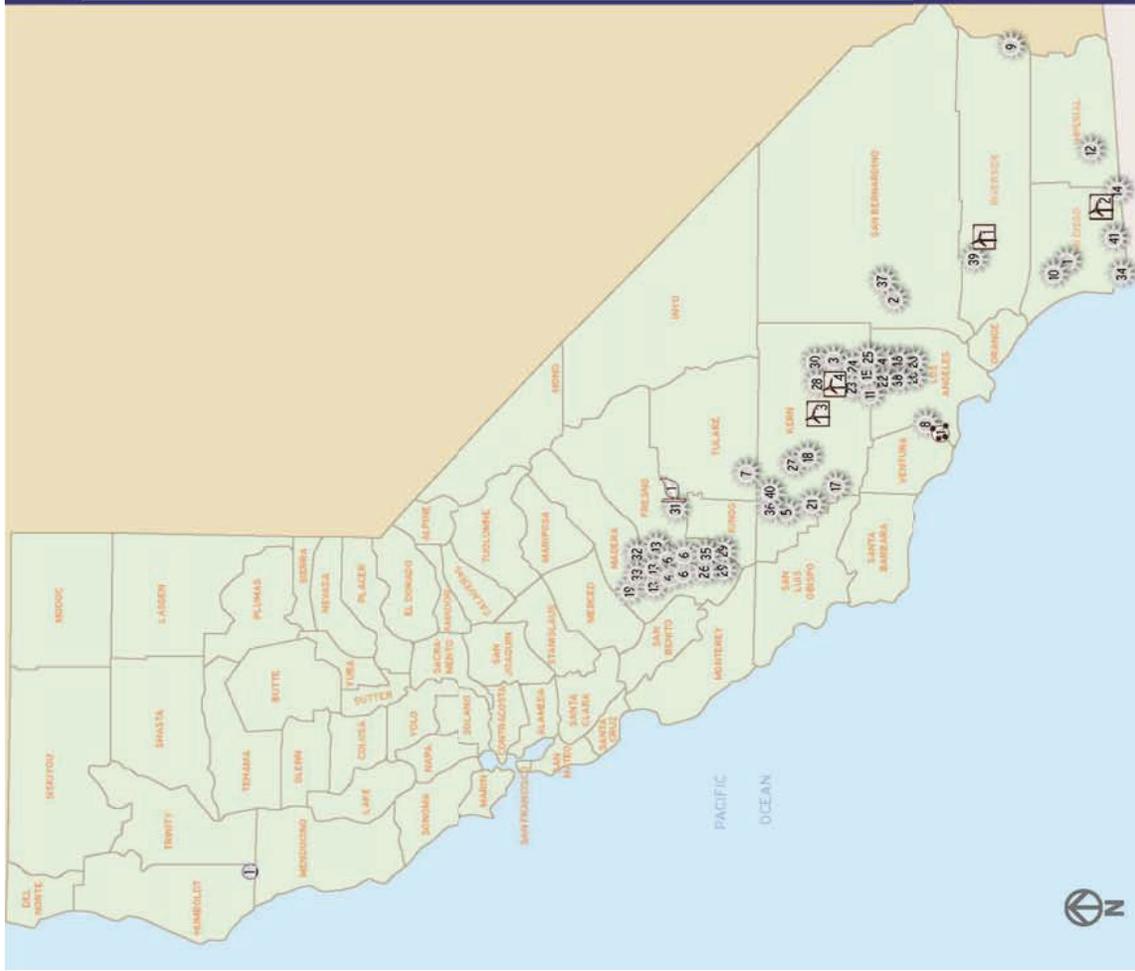
RAM IV	Sustainable through Innovation, LLC	1	1
RAM IV	Montauk Energy Holdings, LLC	1	
RAM IV	TGP Development Company, LLC	4	
RAM V	8minute Energy	2	
RAM V	Brookfield Energy Marketing	1	
RAM V	Bull Moose Energy	1	
RAM V	Cogentrix	2	
RAM V	Con Edison	1	
RAM V	CRES	1	
RAM V	E.ON	8	
RAM V	EDF Renewables	4	
RAM V	First Solar	3	
RAM V	Fortistar	3	
RAM V	Gestamp	5	
RAM V	Infigen	4	
RAM V	NDED	1	
RAM V	NextEra Energy	4	1
RAM V	NRG	1	
RAM V	SKIC Solar	1	
RAM V	SolarReserve, LLC	3	
RAM V	SunEdison	3	
RAM V	Sustainable Innovations	1	
RAM V	Sustainable Power Group, LLC.	24	
RAM V	Terra-Gen Power, LLC	5	1
RAM V	Windland	1	
RAM VI	8minute Energy	1	
RAM VI	E.ON	4	
RAM VI	EDF Renewables	5	
RAM VI	Energy Development & Construction Corporation	1	
RAM VI	First Solar	16	1
RAM VI	Phoenix Energy of Nevada, LLC	1	
RAM VI	Republic Services of Sonoma County, Inc.	2	
RAM VI	Rugraw, LLC	1	
RAM VI	Solar Frontier	3	
RAM VI	SunEdison	1	
RAM VI	Sustainable Power Group, LLC.	1	
<b>TOTAL</b>		<b>416</b>	<b>20</b>

ii. Location of Offer (map), (public)

RAM I







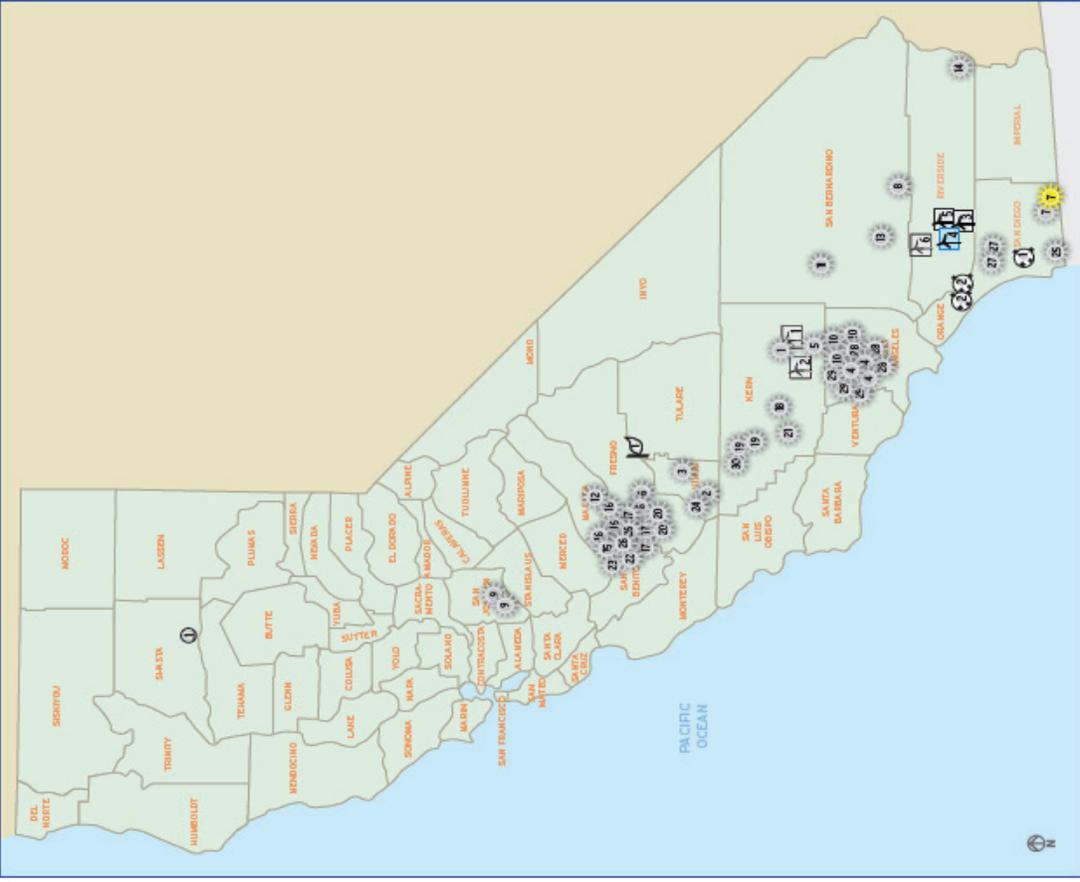
# LEGEND



- Bio-Mass**
  1. Dinuba Energy
- BioGas**
  1. Calabasas Landfill
- Small Hydro**
  1. Kekawaka Creek
- Solar**
  1. A78 Solar
  2. Adelanto Solar
  3. Alta Solar I
  4. Apex Greenworks
  5. Arco Solar
  6. Aspiration Solar D  
Aspiration Solar E  
Aspiration Solar F  
Aspiration Solar G
  7. Atwell Island West
  8. Beautiful Energy
  9. Blythe II
  10. C906 Solar
  11. Catalina Solar
  12. Cielo Del Sol
  13. Citizen Solar B  
Citizen Solar C  
Citizen Solar D
  14. Jacumba Solar
  15. Kingbird Solar
  16. Little Rock Solar
  17. Maricopa West
  18. Oakwood Solar
  19. Oro Loma IV
  20. Patriot Solar A  
Patriot Solar B
  21. Pumjack Solar I
  22. RE Antelope 1
  23. RE Clearwater
  24. RE Columbia II
  25. RE Great Lakes
  26. RE Jayne East
  27. RE Old River I
  28. RE Yakima
  29. San Joaquin 1A  
San Joaquin 2A
  30. SEPV Mojave West
  31. SR Solis Alta
  32. SR Solis Firebaugh
  33. SR Solis Oro Loma
  34. Sun Edison - Brown Field
  35. Three Rocks Solar
  36. Twisselman 1
  37. Victorville Landfill
  38. Western Antelope
  39. White Water
  40. Wildwood Solar I
  41. Zodiac Solar
- Wind**
  1. Phoenix
  2. Tule Wind
  3. Windland Refresh
  4. Zephyr Park



# RAM V Conforming Bids



## LEGEND

	Solar PV	Wind	Biogas	Biomass	Small Hydro
Shortlisted Projects					
Non-Shortlisted Projects					

## Biogas

1. Miramar Energy 3
2. Prima 2 (4.3 MW)
- Prima 2 (4.3 MW)

## Biomass

1. Community Renewable Energy Services

## Small Hydro

1. Lassen Lodge Hydro Project

## Solar PV

1. Alta Solar II
2. Arco Solar
3. CED Corcoran Solar 3
4. Central Antelope Dry Ranch B (5 MW)
- Central Antelope Dry Ranch B (5 MW)
- Central Antelope Dry Ranch B (5 MW)
5. Gettysburg Solar
6. Heim (20 MW)
- Heim (20 MW)
7. Jacumba Solar (20 MW)
- Jacumba Solar (20 MW)
8. Joshua Tree Solar

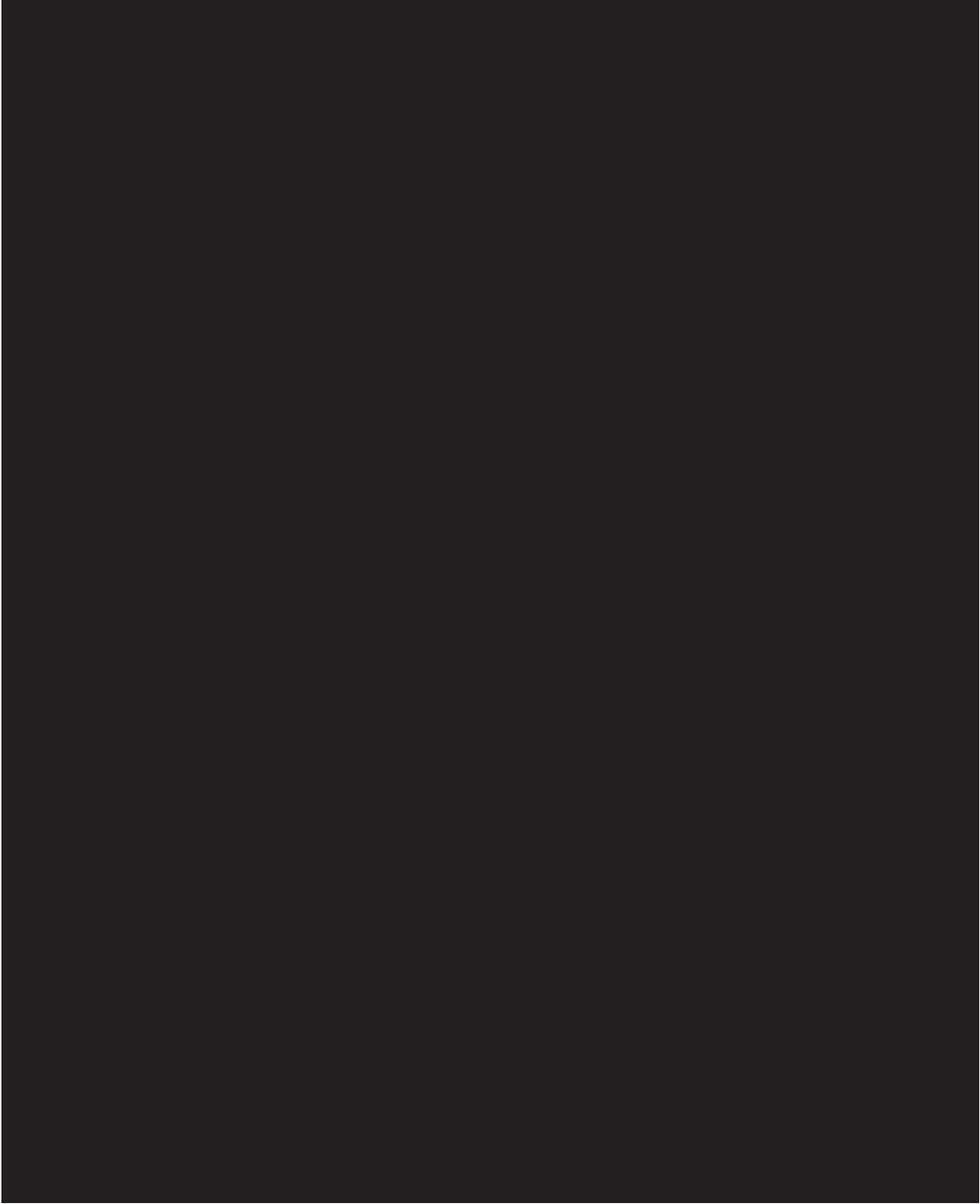
9. Kasson Manteca Solar (20 MW)
- Kasson Manteca Solar (20 MW)
10. Lancaster WAD B (5 MW)
- Lancaster WAD B (5 MW)
11. Long Boat Solar
12. Lotus Solar Farm
13. Lucerne Valley Solar One
14. NRG Solar Blythe II
15. Oro Loma IV
16. Patriot Solar A (20 MW)
- Patriot Solar A (20 MW)
- Patriot Solar A (20 MW)
17. Patriot Solar B (20 MW)
- Patriot Solar B (20 MW)
- Patriot Solar B (20 MW)
18. Redwood Solar Farm
19. Rio Bravo Solar I
- Rio Bravo Solar II
20. San Joaquin 1
- San Joaquin 2
21. SKIC Solar
22. SR Solis Oro Loma
23. SR Solis Oro Loma Teresina
24. SR Solis Rocket
25. SunEdison Brown Field 2
26. Three Rocks Solar (13 MW)
- Three Rocks Solar (13 MW)
27. Valley Center Solar (20 MW)
- Valley Center Solar (20 MW)

## Wind

1. Cameron Ridge II
2. Dif VI Repower
3. San Geronio – Altech
4. San Geronio – San Jacinto
5. San Geronio – Windustries
6. San Jacinto

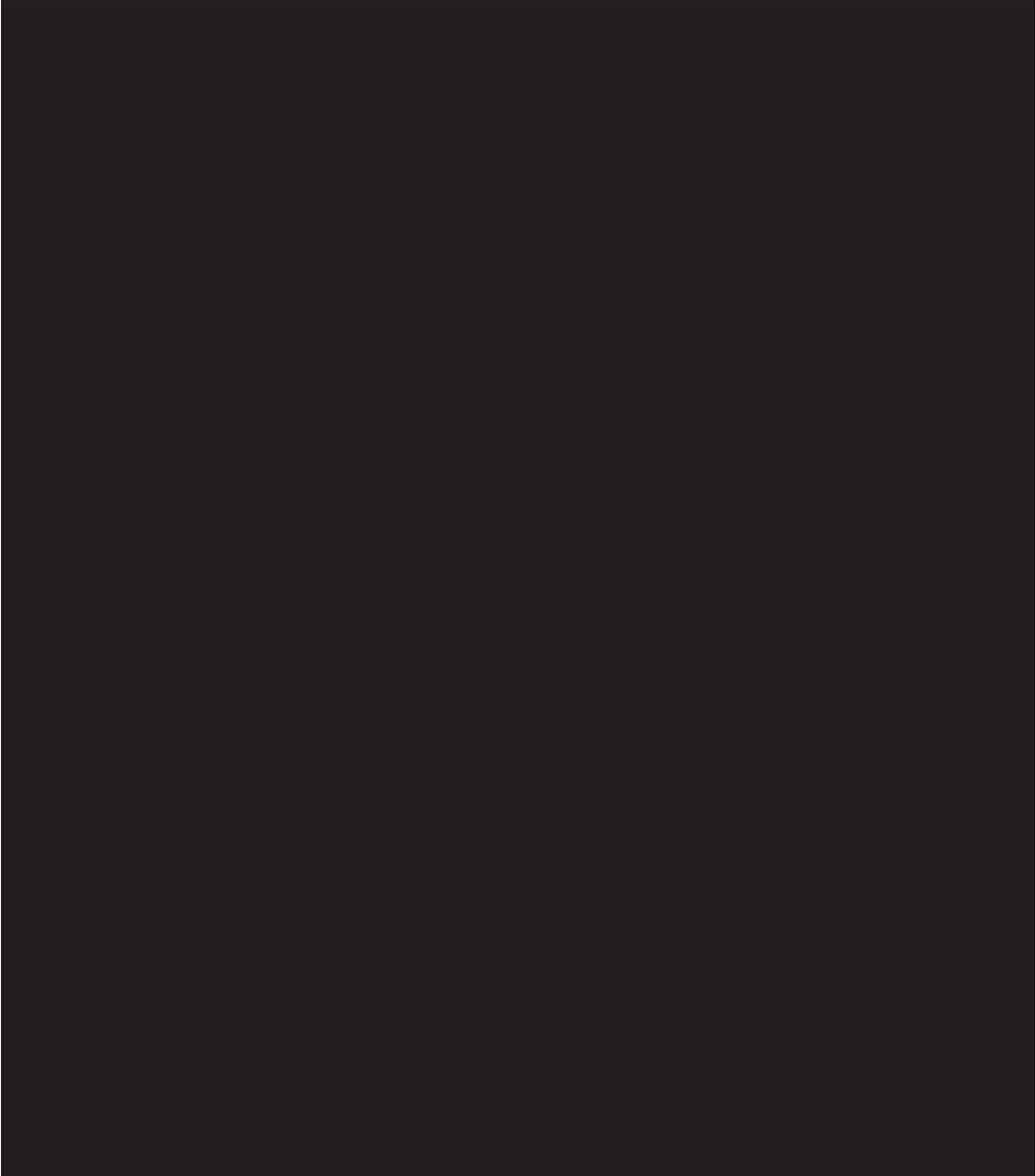


**iii. Offer Price, Transmission Upgrade Costs, Deliverability Adder, Bid Ranking Price (CONFIDENTIAL)**







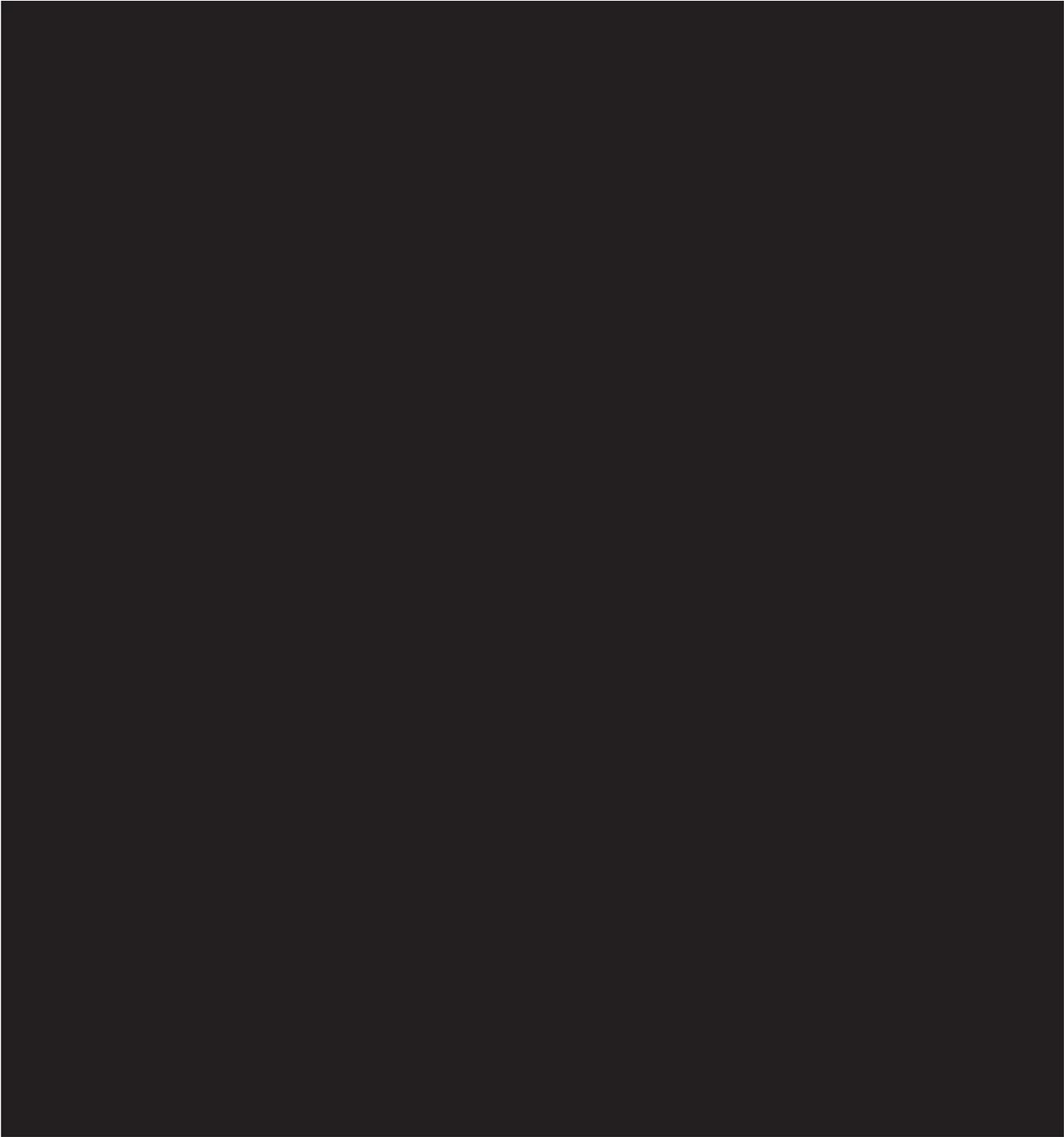




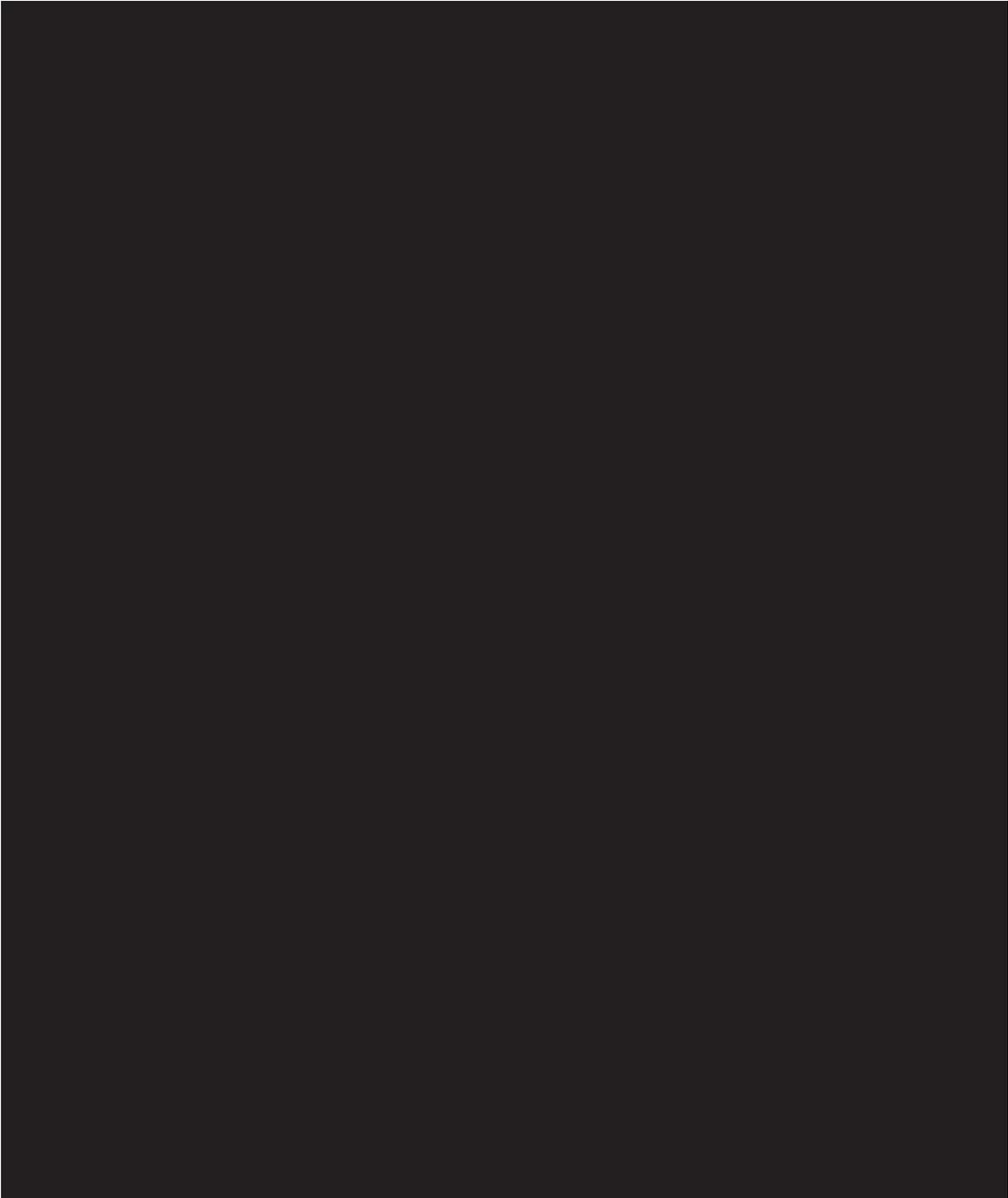




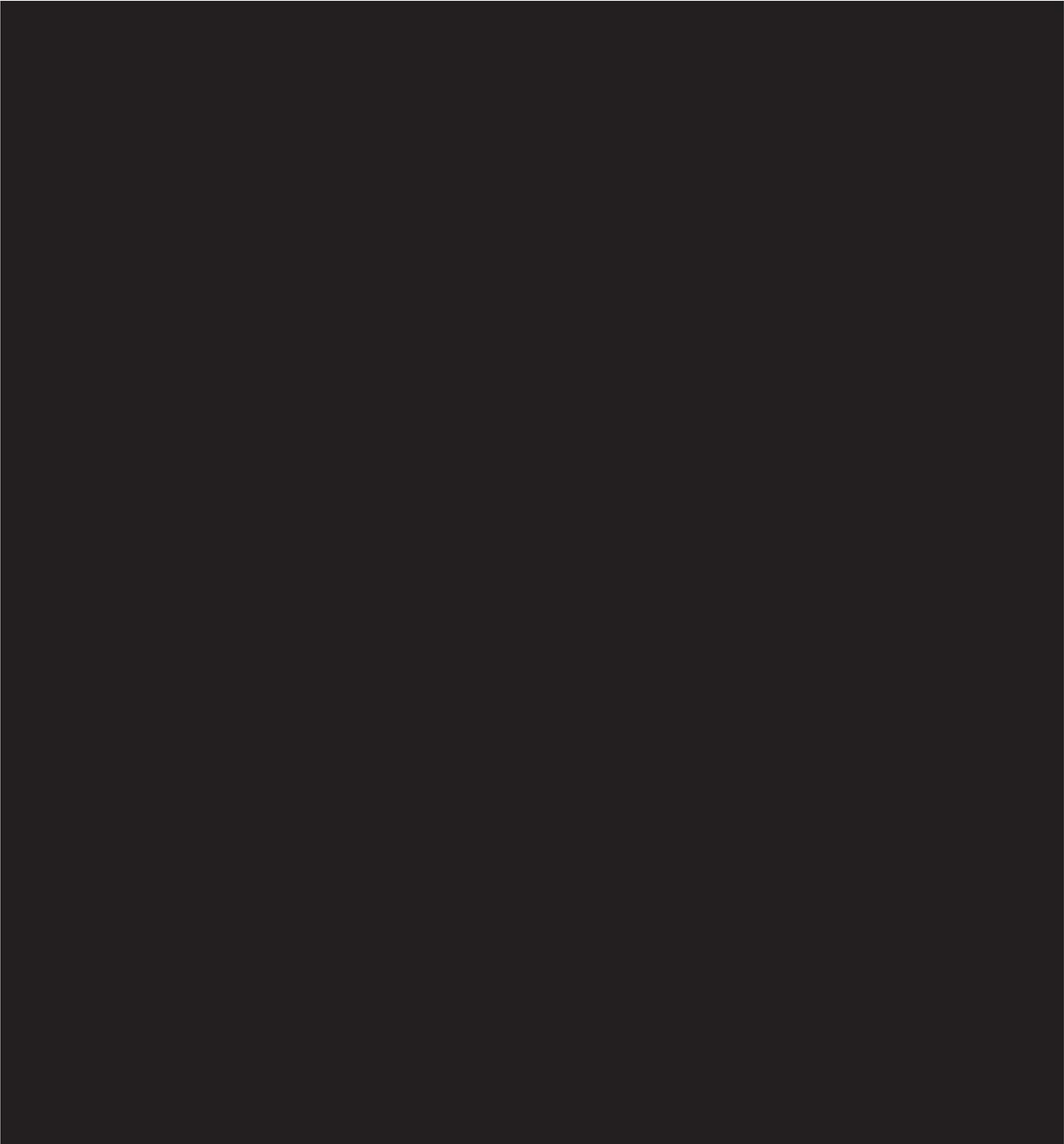


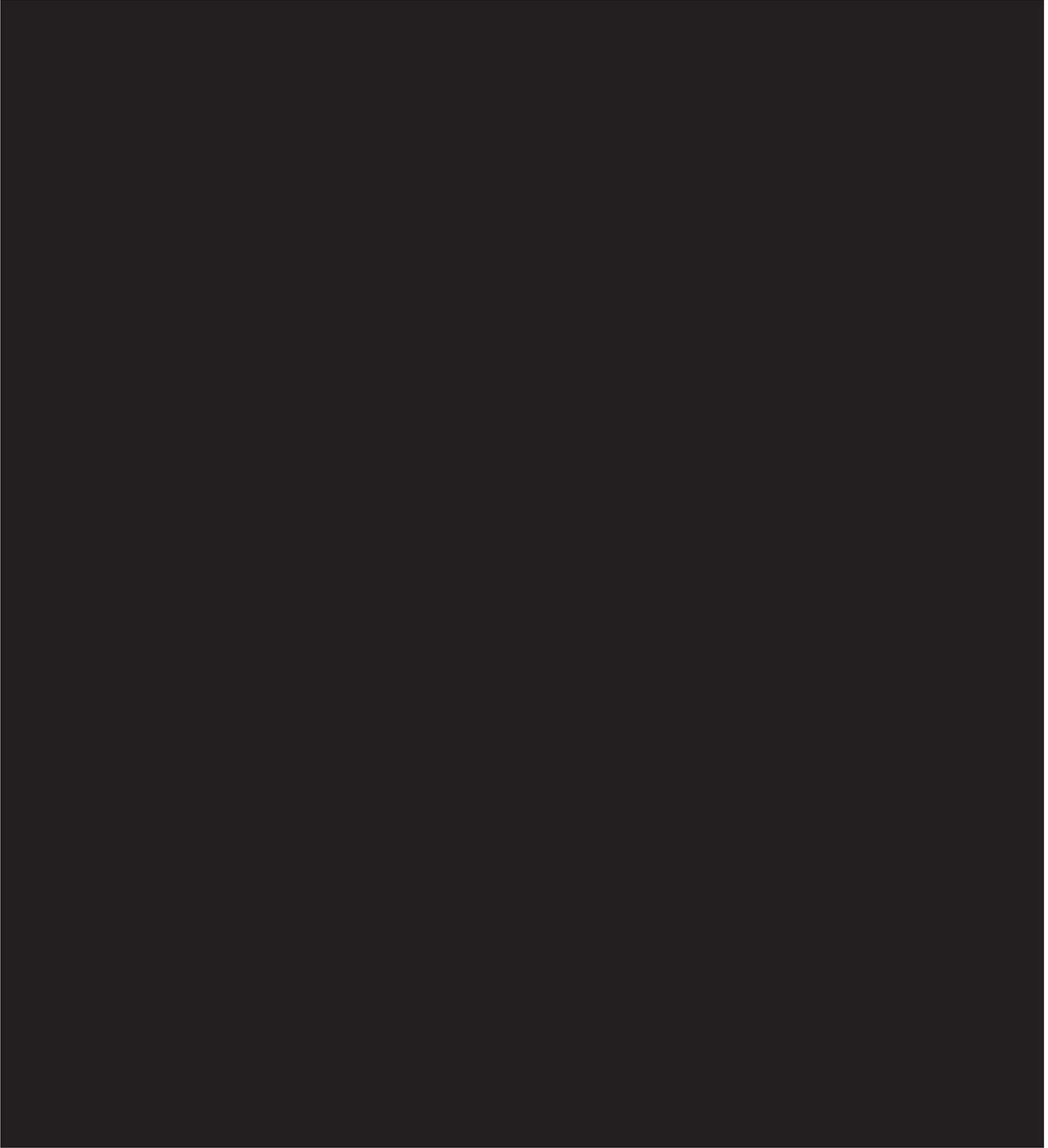


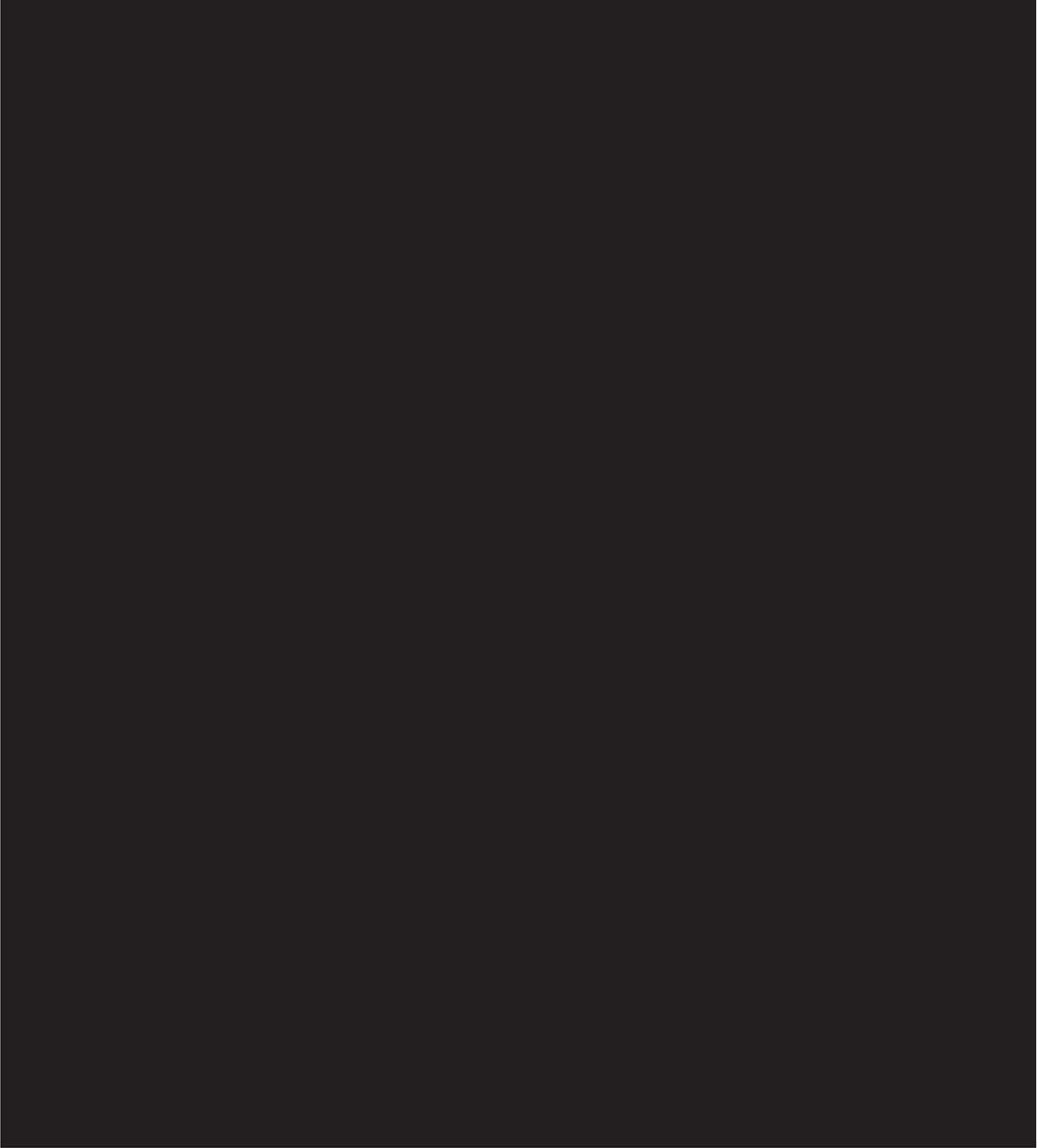










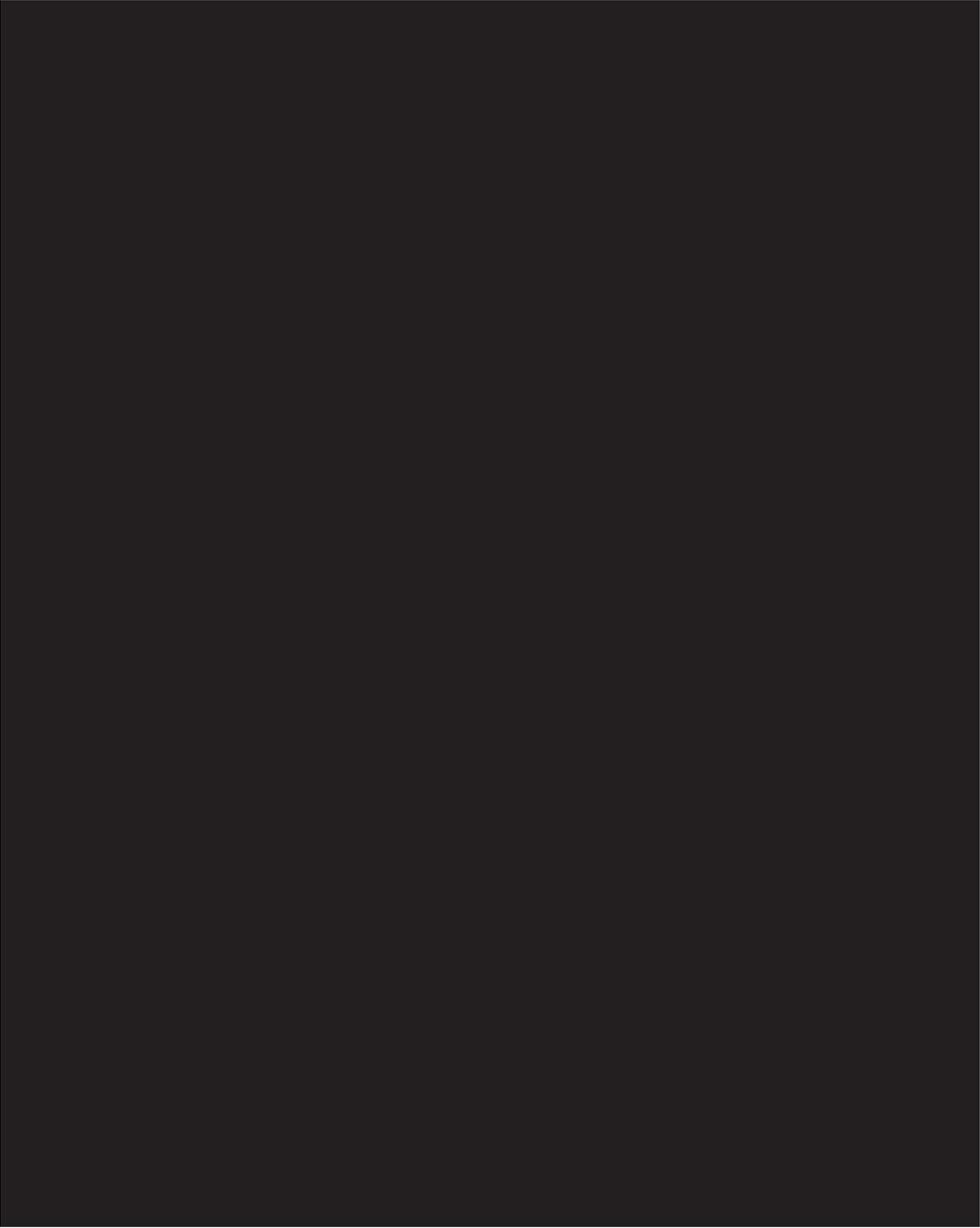








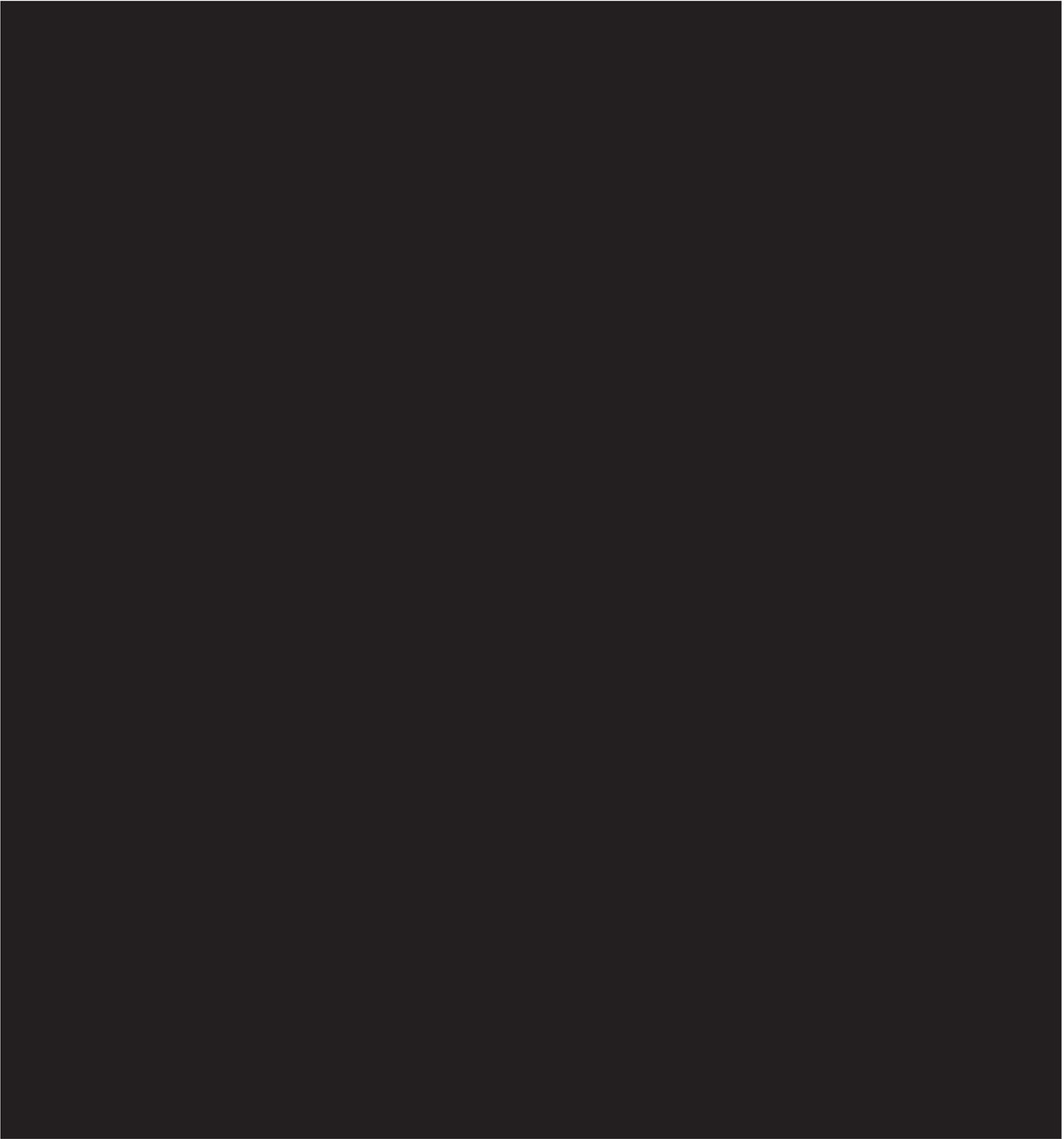








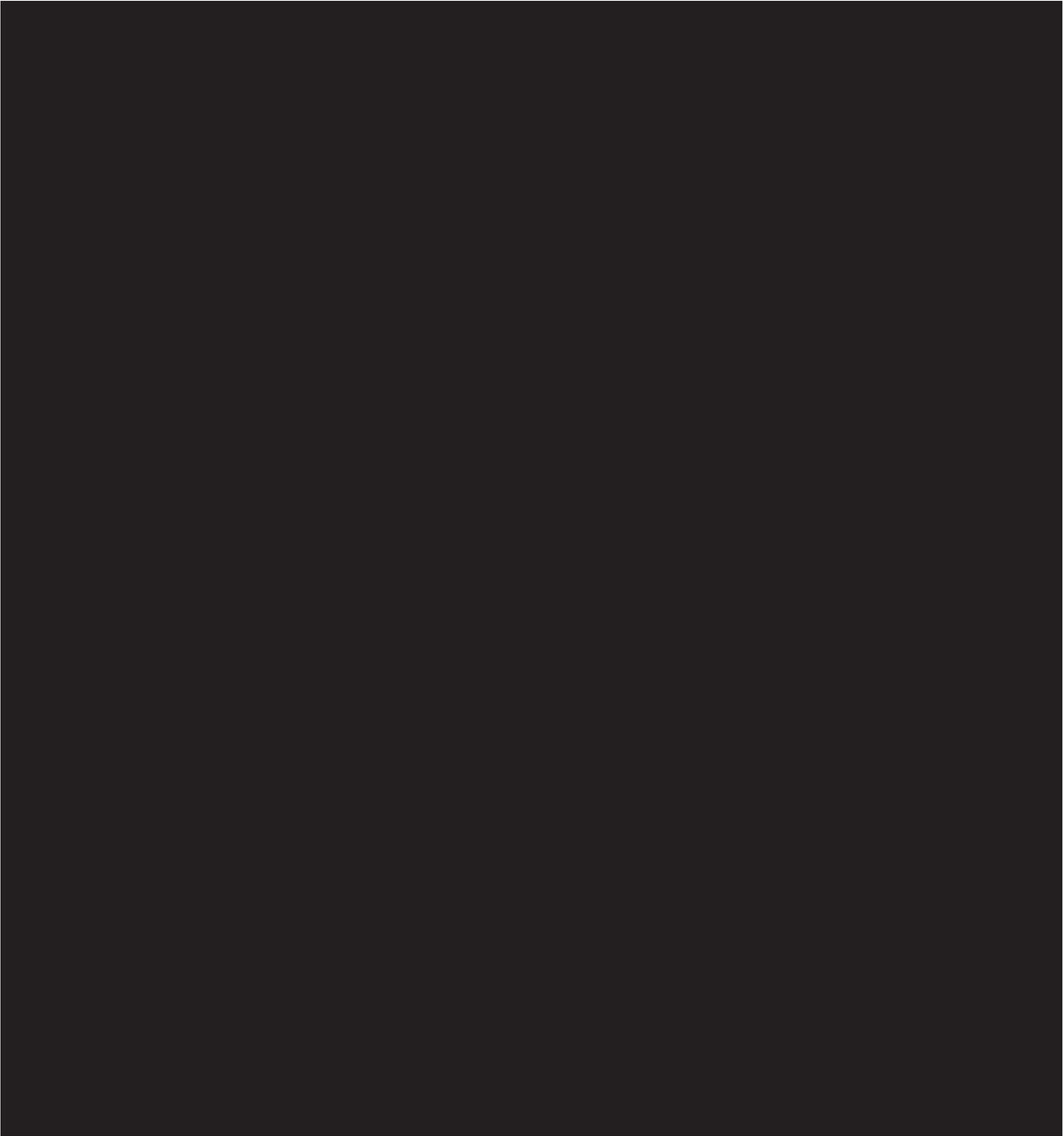






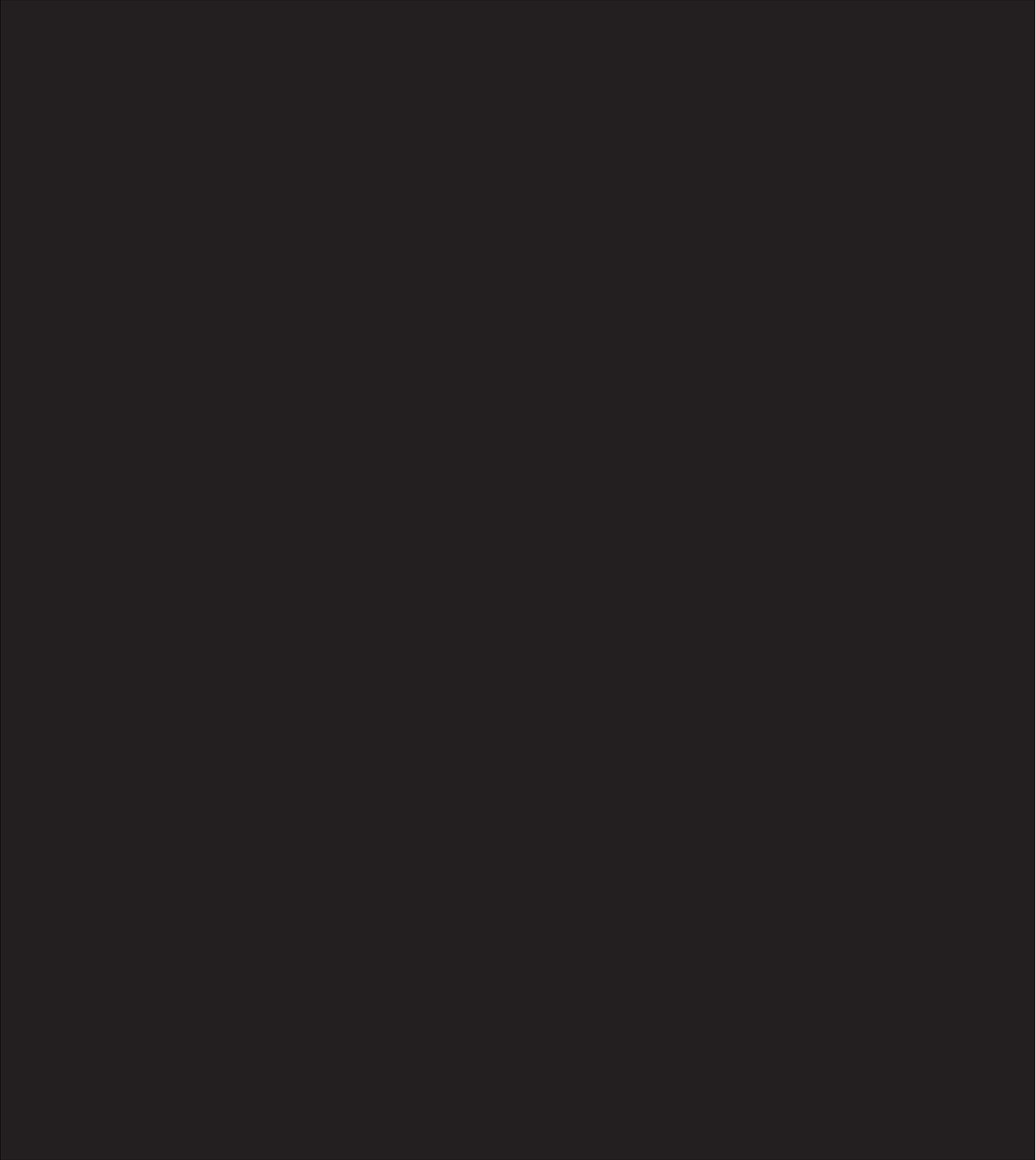


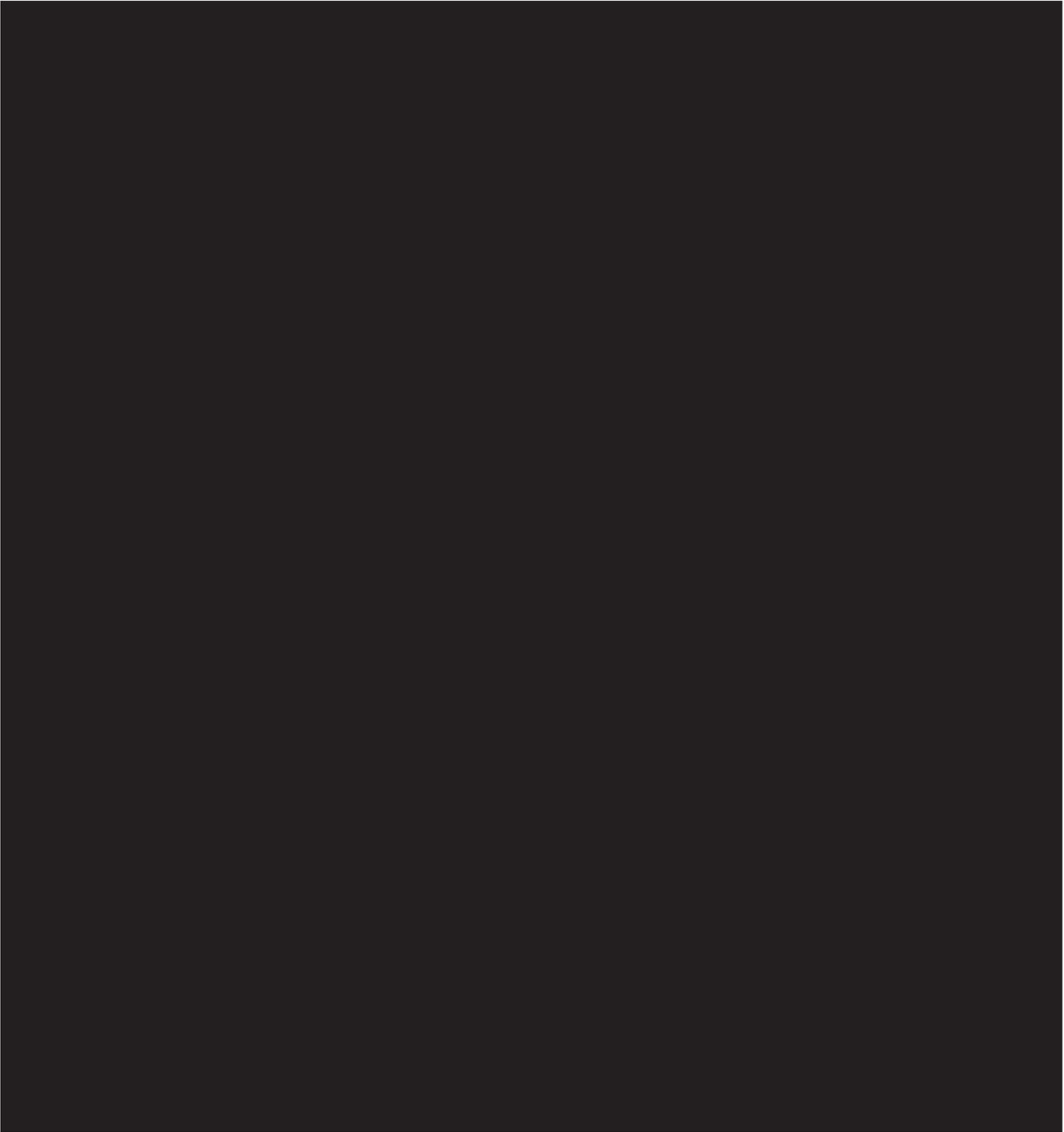




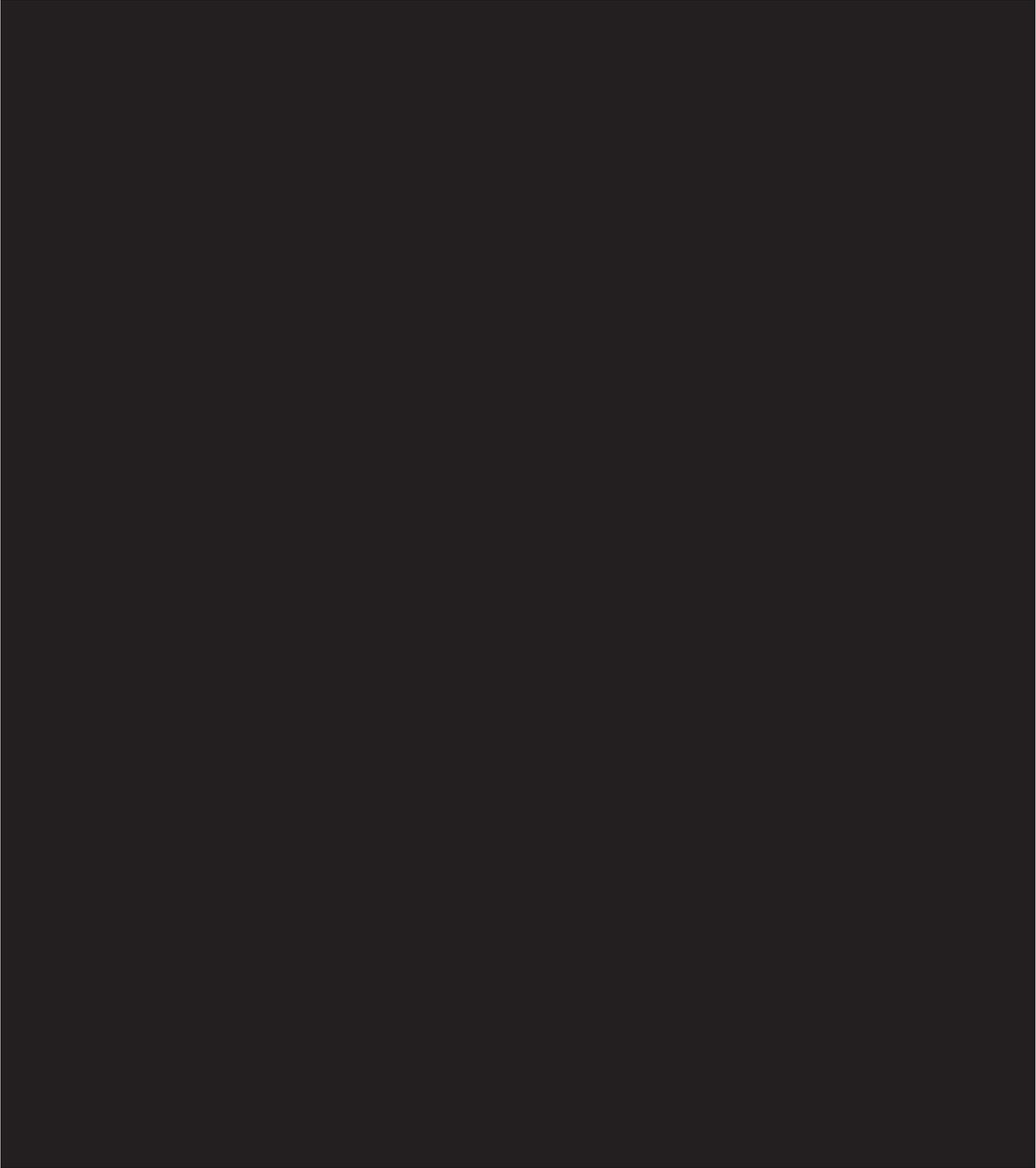


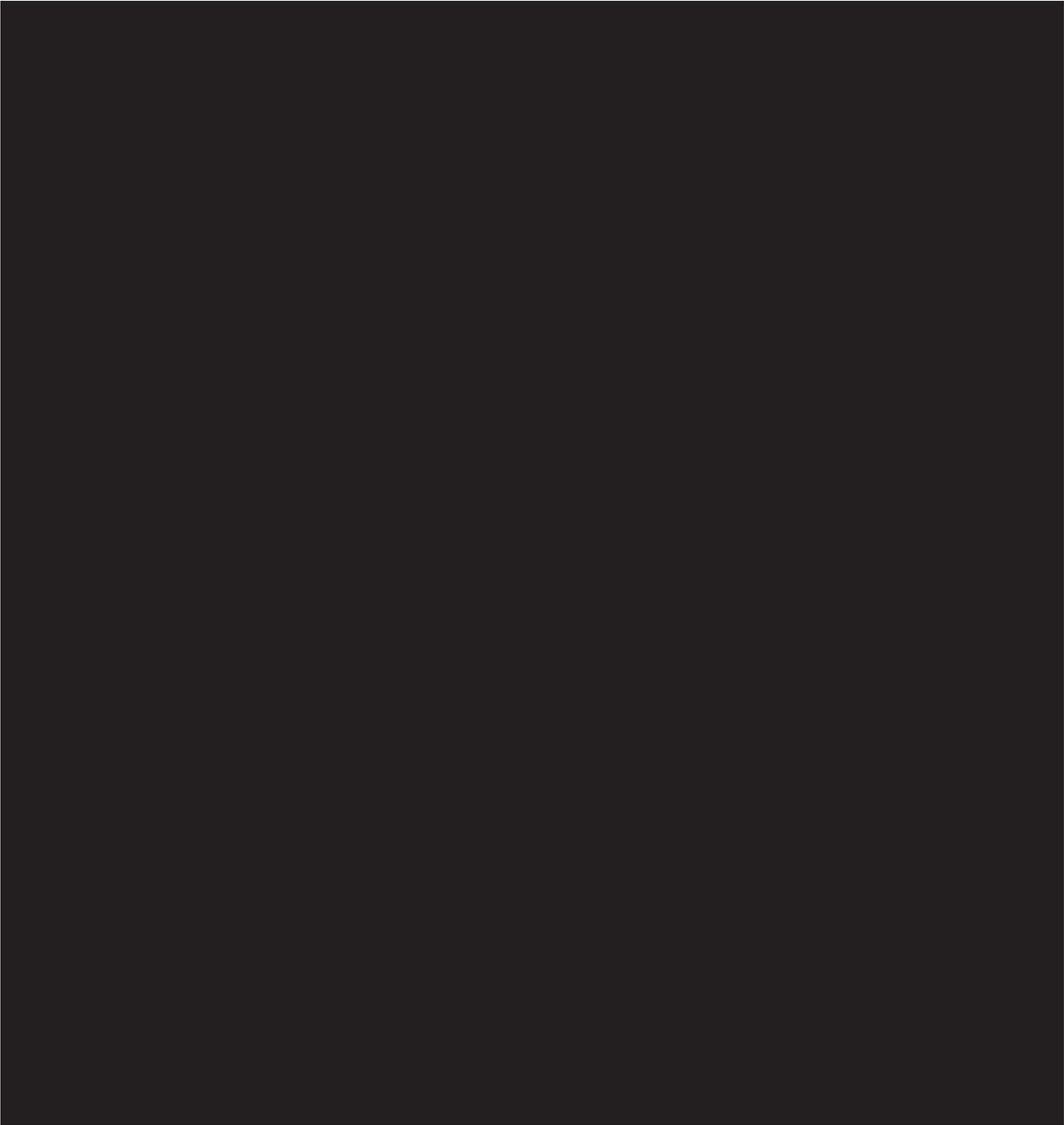


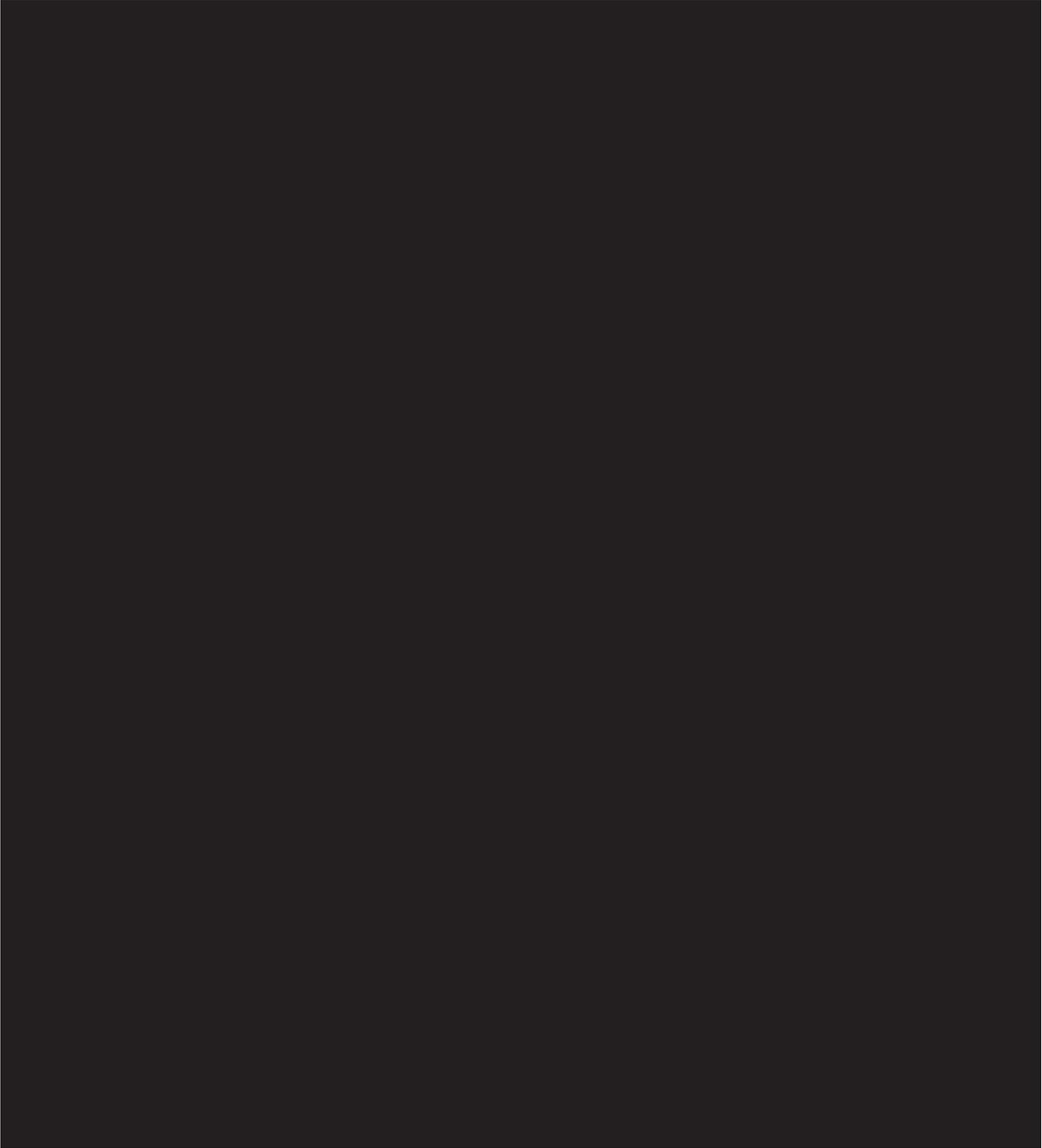


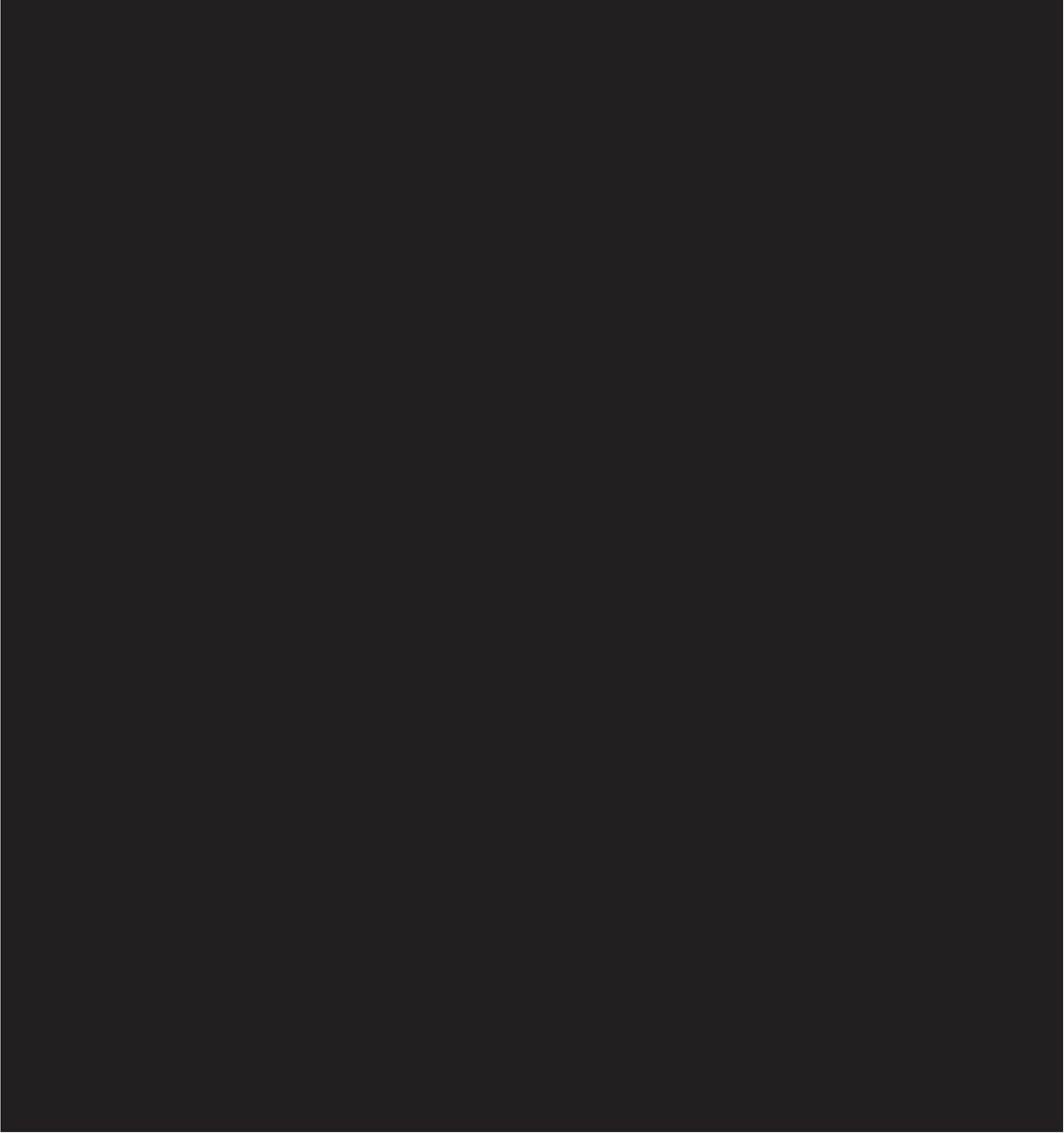




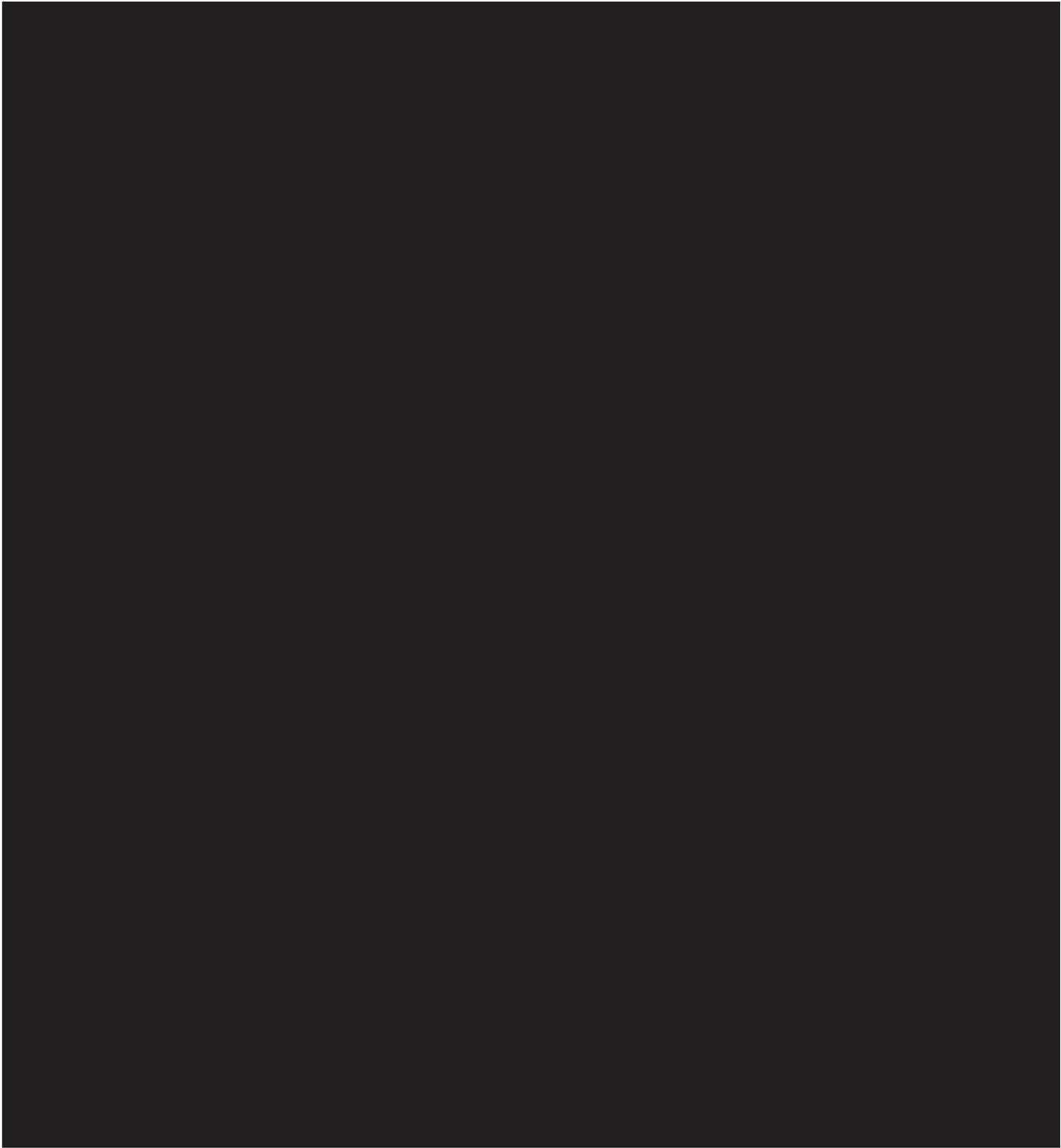


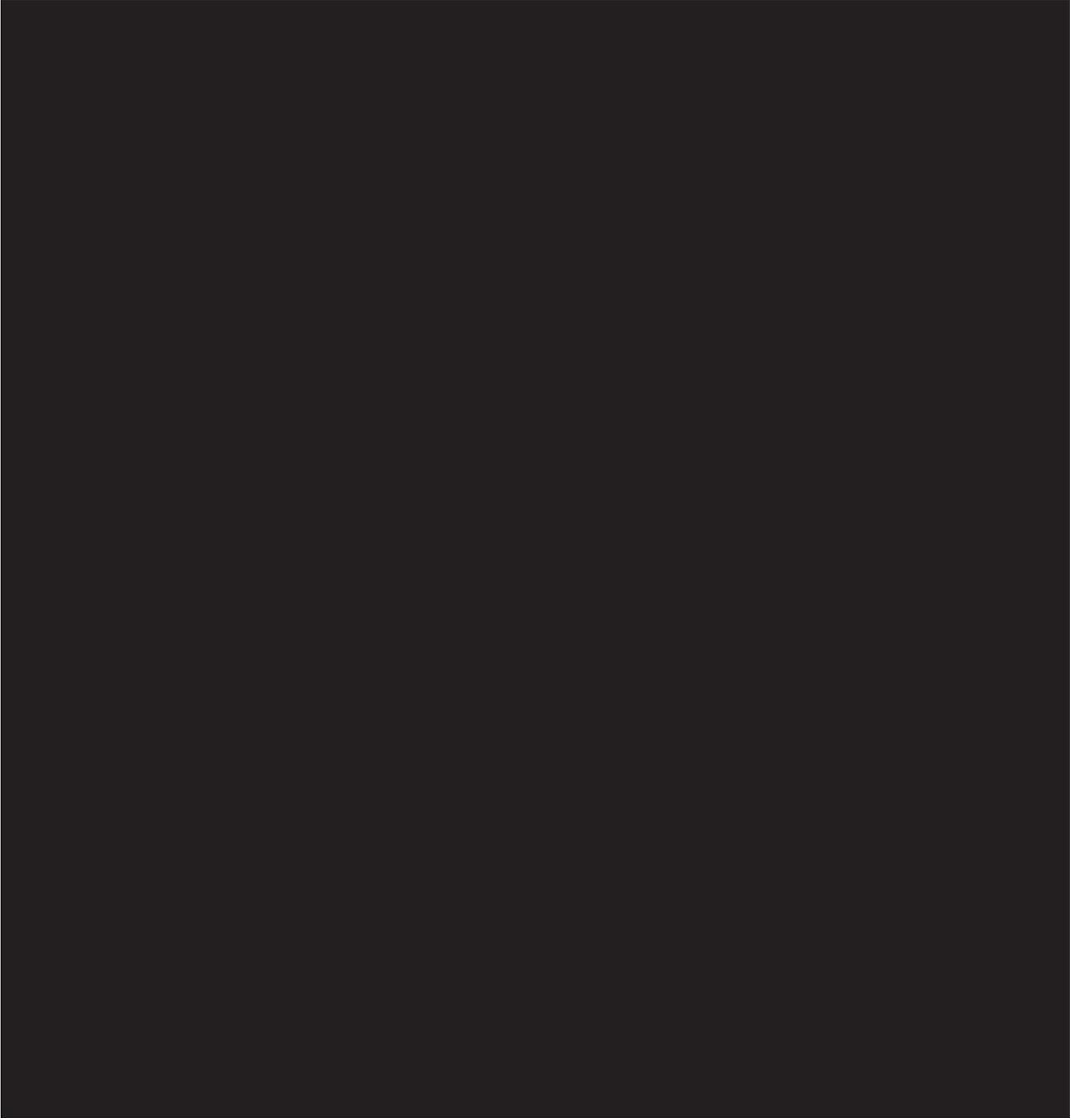












**iv. Project Size and Technology (public)**

RAM Solicitation	Seller Name	Project Name	Installed Nameplate Capacity (MW)	Net Contract Capacity (MW)	Technology
RAM I	BP Solar Energy North America	To be formed Project LLC	26	20	Thin-Film Silicon
RAM I	Eurus Energy America	EE Borrego Land LLC	6.5	5	Thin-Film Silicon
RAM I	Industry Solar Power Generation Station 1 LLC	Industry Solar Power Generation Station 1 LLC	1.97	1.49	Concentrating Photovoltaic (CPV)
RAM I	Lincoln Renewable Energy, LLC	LRE Marathon, LLC	12.5	10	Thin-Film Silicon
RAM I	Lincoln Renewable Energy, LLC	LRE Marathon, LLC	25	20	Thin-Film Silicon
RAM I	MM San Diego LLC	MM San Diego LLC	6.4	4.5	Biogas
RAM I	Recurrent Energy	RE Kansas LLC	26.56	20	Crystalline Silicon
RAM I	Recurrent Energy	RE Old River One LLC	26.544	20	Crystalline Silicon
RAM I	Recurrent Energy	RE Adams East LLC	25.232	19	Crystalline Silicon
RAM I	Recurrent Energy	RE Jayne East LLC	13.267	10	Crystalline Silicon
RAM I	Recurrent Energy	RE Great Lakes LLC	6.65	5	Crystalline Silicon
RAM I	Rockland Capital, LLC	Sun Generation LLC	25 to 26.7	20	Crystalline Silicon
RAM I	Silverado Power	Western Antelope Dry Ranch LLC	12	10	Crystalline Silicon

RAM I	Silverado Power	Victor Mesa Linda B LLC	6	5	Crystalline Silicon
RAM I	Solar Electric Solutions LLC	SEPV8 LLC	14.64	12	Crystalline Silicon
RAM I	Solar Electric Solutions LLC	SEPV9 LLC	10.98	9	Crystalline Silicon
RAM I	Solar Monkey	Three Rocks, LLC	16.25	13	Crystalline Silicon
RAM I	SR Solis Alta	SR Solis Alta	12.62	9	Crystalline Silicon
RAM I	SR Solis Gooselake	SR Solis Gooselake	13.22	10	Crystalline Silicon
RAM I	SunEdison, LLC	Cascade Solar II, LLC	13	10	Crystalline Silicon
RAM I	SunEdison, LLC	FRV Orion Solar II, L.P.	10.4	8	Crystalline Silicon
RAM II	AES Solar Power, LLC and Spiral Inc.	Mountain View Solar	13.15	10.5	Crystalline Silicon
RAM II	Beautiful Earth Group, LLC	Del Sur Solar	20	20	Thin-Film Silicon
RAM II	BP Solar Energy North America LLC	Adelanto Solar	26	20	Thin-Film Silicon
RAM II	Bull Moose Energy, LLC	Bull Moose	20	20	Biomass

RAM II	Bull Moose Energy, LLC	Bull Moose	20	20	Biomass
RAM II	Covanta	Covanta Delano repricing	49	49	Biomass
RAM II	enXco Development Corporation	SNC 1	18	18	Crystalline Silicon
RAM II	enXco Development Corporation	Little Rock Solar	4.56	4.56	Crystalline Silicon
RAM II	enXco Development Corporation	Corcoran Irrigation District Solar	19.76	19.76	Crystalline Silicon
RAM II	enXco Development Corporation	City of Corcoran Solar	12.16	12.16	Crystalline Silicon
RAM II	Gas Recovery Systems LLC	GRS Sycamore	3.75	2.14	Biogas
RAM II	GCL-SR Solar Energy, LLC	Oro Loma	16.99	15	Crystalline Silicon
RAM II	GCL-SR Solar Energy, LLC	Oro Loma	16.99	15	Crystalline Silicon
RAM II	Gestamp Asetym Solar North America, Inc	Peabody RBJ	17.472	14	Crystalline Silicon

RAM II	Gestamp Asetym Solar North America, Inc	Camden 1	1.8144	1.5	Crystalline Silicon
RAM II	Gestamp Asetym Solar North America, Inc	Camden 1	1.8144	1.5	Crystalline Silicon
RAM II	Gestamp Asetym Solar North America, Inc	San Joaquin 1A	24.192	20	Crystalline Silicon
RAM II	Gestamp Asetym Solar North America, Inc	San Joaquin 2A	24.192	20	Crystalline Silicon
RAM II	Gestamp Asetym Solar North America, Inc	Oro Loma IV	25.872	20	Crystalline Silicon
RAM II	Infigen Energy US Development, LLC	Pumpjack Solar	26	20	Crystalline Silicon
RAM II	Infigen Energy US Development, LLC	Wildwood Solar	26	20	Crystalline Silicon
RAM II	Infigen Energy US Development, LLC	Pumpjack Solar	26	20	Crystalline Silicon
RAM II	Infigen Energy US Development, LLC	Wildwood Solar	26	20	Crystalline Silicon

RAM II	Inupiat Energy Marketing, LLC	Alta Solar	9.96	9	Crystalline Silicon
RAM II	Inupiat Energy Marketing, LLC	Alta Solar	9.96	9	Crystalline Silicon
RAM II	Inupiat Energy Marketing, LLC	Firebaugh Solar	8.36	7.5	Crystalline Silicon
RAM II	Inupiat Energy Marketing, LLC	Rocket Solar	17.57	15.8	Crystalline Silicon
RAM II	Inupiat Energy Marketing, LLC	Firebaugh Solar	8.36	7.5	Crystalline Silicon
RAM II	Inupiat Energy Marketing, LLC	Rocket Solar	17.57	15.8	Crystalline Silicon
RAM II	MM San Diego LLC	MM San Diego	7.3	4.5	Biogas
RAM II	Monument Power, LLC	Agincourt Solar	12.5	10	Thin-Film Silicon
RAM II	Monument Power, LLC	Marathon Solar	25	20	Thin-Film Silicon
RAM II	NRG Solar LLC	Blythe II Solar	24	20	Crystalline Silicon
RAM II	Ormat Nevada, Inc.	Mammoth G2	15	12	Geothermal
RAM II	Ormat Nevada, Inc.	Mammoth G1	10	7.5	Geothermal
RAM II	Pristine Sun LLC	Clearvista Energy Ranch	10	10	Wind

RAM II	Pristine Sun LLC	Clearvista Energy Ranch	5	5	Wind
RAM II	Pristine Sun LLC	Clearvista Energy Ranch	4.5	4.5	Wind
RAM II	Pristine Sun LLC	Clearvista Energy Ranch	19.5	19.5	Crystalline Silicon
RAM II	Recurrent Energy	RE Adams East	25.232	19	Crystalline Silicon
RAM II	Recurrent Energy	RE Old River One	26.53	20	Crystalline Silicon
RAM II	Recurrent Energy	RE Lincoln	15.91	12	Crystalline Silicon
RAM II	Recurrent Energy	RE Great Lakes	6.65	5	Crystalline Silicon
RAM II	Recurrent Energy	RE Adams East	25.232	19	Crystalline Silicon
RAM II	Recurrent Energy	RE Jayne East	13.267	10	Crystalline Silicon
RAM II	Recurrent Energy	RE Old River One	26.53	20	Crystalline Silicon
RAM II	Recurrent Energy	RE Lincoln	15.91	12	Crystalline Silicon
RAM II	Recurrent Energy	RE Jayne East	13.267	10	Crystalline Silicon
RAM II	Silverado Power	Western Antelope Blue Sky Ranch	28.635	20	Crystalline Silicon
RAM II	Silverado Power	Patriot Solar	29.53	20	Crystalline Silicon
RAM II	Silverado Power	Patriot Solar	29.53	20	Crystalline Silicon
RAM II	Silverado Power	Adelanto Greenworks Solar	2.95	2	Crystalline Silicon
RAM II	Silverado Power	Citizen Solar	7.38	5	Crystalline Silicon
RAM II	Silverado Power	Zodiac Solar	29.53	20	Crystalline Silicon
RAM II	Silverado Power	Inspiration Solar	29.53	20	Crystalline Silicon

RAM II	Silverado Power	Aspiration Solar	13.29	9	Crystalline Silicon
RAM II	Silverado Power	Inspiration Solar	29.53	20	Crystalline Silicon
RAM II	Silverado Power	Inspiration Solar	29.53	20	Crystalline Silicon
RAM II	Silverado Power	Aspiration Solar	4.43	3	Crystalline Silicon
RAM II	Silverado Power LLC	Adelanto Greenworks Solar	2.95	2	Crystalline Silicon
RAM II	Solar Monkey	Three Rocks Solar	16.25	13	Crystalline Silicon
RAM II	Solar Monkey	Three Rocks Solar	16.25	13	Crystalline Silicon
RAM II	Solar Power, Inc	Colusa	19.6	16	Crystalline Silicon
RAM II	Solar Power, Inc.	Red Bluff	21.7	17.5	Crystalline Silicon
RAM II	SPS, Atwell Island West, LLC	SPS Atwell Island West	24	20	Crystalline Silicon
RAM II	SPS, Atwell Island West, LLC	SPS Atwell Island West	24	20	Crystalline Silicon
RAM II	SPS, White River West, LLC	SPS White River West	19.75	23.7	Crystalline Silicon
RAM II	Sun Edison LLC	Cottonwood Solar	3.9	3	Crystalline Silicon
RAM II	Sun Edison LLC	Delano Solar	3.9	3	Crystalline Silicon
RAM II	SunEdison, LLC	Cascade Solar	24.05	18.5	Crystalline Silicon
RAM II	SunEdison, LLC	Victorville Landfill Solar	13	10	Crystalline Silicon

RAM II	SunEdison, LLC	AP North Lake Solar II	6.5	5	Crystalline Silicon
RAM II	SunEdison, LLC	AP North Lake Solar	26	20	Crystalline Silicon
RAM II	SunEdison, LLC	FRV Vega Solar	26	20	Crystalline Silicon
RAM II	SunEdison, LLC	FRV Orion Solar II	10.4	8	Crystalline Silicon
RAM II	SunEdison, LLC	AP North Lake Solar	26	20	Crystalline Silicon
RAM II	SunEdison, LLC	FRV Orion Solar II	10.4	8	Crystalline Silicon
RAM II	Sustainable through Innovation, LLC	STI Lassen	5	5	Small Hydro
RAM II	Valos Solar Ventures, LLC	SKIC Solar	22.1	20	Crystalline Silicon
RAM II	Windland Refresh, LLC	Windland Refresh	7.335	7.335	Wind
RAM III	8minutenergy Renewables LLC	Oakwood Solar Farm	26	20	Crystalline Silicon
RAM III	8minutenergy Renewables LLC	Oakwood Solar Farm	26	20	Crystalline Silicon
RAM III	Cielo Del Sol, LLC	Cielo Del Sol Project	10.94	10.94	Thin-Film Silicon
RAM III	Community Renewable Energy Services, Inc.	Dinuba Energy	12	856680	Biomass

RAM III	County Sanitation District No. 2 of Los Angeles County	Calabasas Landfill Gas-to-Energy Facility	13.8	5.8	Biogas
RAM III	EC&R NA Solar PV, LLC	Maricopa West Solar PV, LLC	20	19.8	Crystalline Silicon
RAM III	EDF Renewable Development, Inc.	Little Rock Solar PV Project	4.56	4.56	Crystalline Silicon
RAM III	EDF Renewable Energy	Catalina Solar 2 Solar PV Project	18	18	Crystalline Silicon
RAM III	First Solar Development, Inc.	Beautiful Energy Project	21	16	Thin-Film Silicon
RAM III	GCL-SR	SR Solis Oro Loma	23.436	18	Crystalline Silicon
RAM III	GCL-SR Solar Energy, LLC	SR Solis Alta	11.936	9	Crystalline Silicon
RAM III	GCL-SR Solar Energy, LLC	SR Solis Firebaugh	13.564	10	Crystalline Silicon
RAM III	Gestamp Asetym Solar North America	GASNA 31P, LLC ("Twisselman 1")	18.63	15	Crystalline Silicon
RAM III	Gestamp Asetym Solar North America	GASNA 31P, LLC ("Twisselman 1")	18.63	15	Crystalline Silicon

RAM III	Gestamp Asetym Solar North America	GASNA 31P, LLC ("Twisselman 1")	18.63	15	Crystalline Silicon
RAM III	Gestamp Asetym Solar North America	GASNA 31P, LLC ("Twisselman 1")	18.63	15	Crystalline Silicon
RAM III	Gestamp Asetym Solar North America, Inc	Oro Loma IV	27	20	Crystalline Silicon
RAM III	Gestamp Asetym Solar North America, Inc	Oro Loma IV	27	20	Crystalline Silicon
RAM III	Gestamp Asetym Solar North America, Inc	San Joaquin 1A	27	20	Crystalline Silicon
RAM III	Gestamp Asetym Solar North America, Inc	San Joaquin 2A	27	20	Crystalline Silicon
RAM III	Hanwha SolarEnergy America	Three Rocks Solar	17.01654	13	Crystalline Silicon
RAM III	Hanwha SolarEnergy America	Three Rocks Solar	17.01654	13	Crystalline Silicon
RAM III	Iberdrola Renewables, LLC.	Tule Wind Project	20	20	Wind

RAM III	Infigen Energy US Development, LLC	Pumjack Solar I	26	20	Crystalline Silicon
RAM III	Infigen Energy US Development, LLC	Wildwood Solar I, LLC	26	20	Crystalline Silicon
RAM III	Kingbird Solar, LLC	Kingbird Solar Project	23.8	19.76	Thin-Film Silicon
RAM III	NextEra Energy Resources Acquisitions, LLC	Adelanto Solar	28	20	Crystalline Silicon
RAM III	NextEra Energy Resources Acquisitions, LLC	Jacumba Solar	28	20	Crystalline Silicon
RAM III	NorthLight Power, LLC	A78 Solar	5.95	5	Crystalline Silicon
RAM III	NorthLight Power, LLC	C908 Solar	7.77	7	Crystalline Silicon
RAM III	Recurrent Energy	RE Antelope 1 LLC	13.3	10	Crystalline Silicon
RAM III	Recurrent Energy	RE Clearwater	26.6	20	Crystalline Silicon
RAM III	Recurrent Energy	RE Columbia Two	19.95	15	Crystalline Silicon
RAM III	Recurrent Energy	RE Great Lakes	6.64	5	Crystalline Silicon
RAM III	Recurrent Energy	RE Jayne East	13.267	10	Crystalline Silicon
RAM III	Recurrent Energy	RE Jayne East	13.267	10	Crystalline Silicon
RAM III	Recurrent Energy	RE Old River One	26.6	20	Crystalline Silicon
RAM III	Recurrent Energy	RE Yakima	26.6	20	Crystalline Silicon

RAM III	Silverado Power LLC.	Apex Greenworks	28.361	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Apex Greenworks	28.361	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar D	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar D	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar E	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar E	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar F	4.248	3	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar F	4.248	3	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar G	12.744	9	Crystalline Silicon
RAM III	Silverado Power LLC.	Aspiration Solar G	12.744	9	Crystalline Silicon
RAM III	Silverado Power LLC.	Citizen Solar B	7.08	5	Crystalline Silicon
RAM III	Silverado Power LLC.	Citizen Solar B	7.08	5	Crystalline Silicon
RAM III	Silverado Power LLC.	Citizen Solar C	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Citizen Solar C	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Citizen Solar D	28.32	20	Crystalline Silicon

RAM III	Silverado Power LLC.	Citizen Solar D	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Patriot Solar A	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Patriot Solar A	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Patriot Solar B	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Patriot Solar B	28.32	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Western Antelope Dry Ranch Addition	28.361	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Zodiac Solar	28.361	20	Crystalline Silicon
RAM III	Silverado Power LLC.	Zodiac Solar	28.361	20	Crystalline Silicon
RAM III	Solar Electric Solutions, LLC	SEPV Mojave West (formerly known as SEPV7)	23	20	Crystalline Silicon
RAM III	Solar Projects Solutions, LLC	Atwell Island West PV Solar Generating Facility	24	20	Crystalline Silicon
RAM III	SRPV. LLC	White Water	16.99	9	Crystalline Silicon
RAM III	SRPV. LLC	White Water	16.99	9	Crystalline Silicon
RAM III	STS HydroPower, Ltd.	Kekawaka Creek Hydroelectric Facility	5.6	5.5	Small Hydro

RAM III	Sun Edison LLC	SunEdison - Brown Field	6.501	5	Crystalline Silicon
RAM III	Sun Edison LLC	Arco Solar Project	26	20	Crystalline Silicon
RAM III	Sun Edison LLC	Victorville Landfill Solar	13	10	Crystalline Silicon
RAM III	Terra-Gen Power, LLC	Alta Solar I Project	24.5	20	Thin-Film Silicon
RAM III	Terra-Gen Power, LLC	Alta Solar I Project	24.5	20	Thin-Film Silicon
RAM III	TGP Development Company, LLC	Phoenix	12.9	12.9	Wind
RAM III	TGP Development Company, LLC	Phoenix	13.7	13.7	Wind
RAM III	TGP Development Company, LLC	Phoenix	12.9	12.9	Wind
RAM III	TGP Development Company, LLC	Zephyr Park	3.5	3.5	Wind
RAM III	TGP Development Company, LLC	Zephyr Park	3.5	3.5	Wind

RAM III	Volt Energy (51% owner, DBE) NRG Solar (49% owner)	Blythe II	24	20	Crystalline Silicon
RAM III	Windland Refresh, LLC	Windland Refresh	7.455	7.455	Wind
RAM IV	EC&R NA Solar PV, LLC	Maricopa East Solar PV 2, LLC	18	17.82	Solar PV (Crystalline Silicon)
RAM IV	Kingbird Solar, LLC	Kingbird Solar Project	20.54	20	Solar PV (Thin-Film Silicon)
RAM IV	Kingbird Solar, LLC	Kingbird Solar Project	20.54	20	Solar PV (Thin-Film Silicon)
RAM IV	Kingbird Solar, LLC	Kingbird Solar Project	20.54	20	Solar PV (Thin-Film Silicon)
RAM IV	Kingbird Solar, LLC	Kingbird Solar Project	20.54	20	Solar PV (Thin-Film Silicon)
RAM IV	EC&R NA Solar PV, LLC	Maricopa East Solar PV 1, LLC	20	19.8	Solar PV (Crystalline Silicon)
RAM IV	Portal Ridge Solar, LLC	Portal Ridge Solar Project	15.57	15	Solar PV (Thin-Film Silicon)
RAM IV	Portal Ridge Solar, LLC	Portal Ridge Solar Project	20.77	20	Solar PV (Thin-Film Silicon)
RAM IV	Portal Ridge Solar, LLC	Portal Ridge Solar Project	15.57	15	Solar PV (Thin-Film Silicon)

RAM IV	Portal Ridge Solar, LLC	Portal Ridge Solar Project	20.77	20	Solar PV (Thin-Film Silicon)
RAM IV	Sun Edison LLC	Victorville Landfill Solar	13	10	Solar PV (Crystalline Silicon)
RAM IV	Sun Edison LLC	Arco Solar Project	26	20	Solar PV (Crystalline Silicon)
RAM IV	AES Tehachapi Wind, LLC	Tehachapi Wind	0.05	5.5 MW	Wind
RAM IV	Hanwha Q Cells USA	Three Rocks Solar	17.16	13	Solar PV (Crystalline Silicon)
RAM IV	SKIC Solar, LLC	SKIC Solar 2	12.6	10	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Lancaster Little Rock C	7.44	5	Solar PV (Crystalline Silicon)
RAM IV	Pristine Sun, LLC	Clearvista Energy 5 MW Wind Project	5	5	Wind
RAM IV	TGP Development Company, LLC	Altech III	9.8	9.8	Wind
RAM IV	New Dimension Energy Company, LLC	Smoke Tree Wind	8.1	8.1	Wind
RAM IV	New Dimension Energy Company	Smoke Tree Wind	8.5	8.5	Wind
RAM IV	Altamont Winds Inc.	Summit Wind Project	20	20	Wind

RAM IV	Pristine Sun, LLC	Clearvista Energy 5 MW Wind Project	5	5	Wind
RAM IV	Adera Solar, LLC	Chowchilla Solar Project	26.5	20	Solar PV (Crystalline Silicon)
RAM IV	SunEdison	SunEdison - Brown Field	6.3	5	Solar PV (Crystalline Silicon)
RAM IV	Sempra U.S. Gas & Power	Rosamond Solar	31	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Aspiration Solar G	13.392	9	Solar PV (Crystalline Silicon)
RAM IV	NextEra Energy Resources, LLC	Joshua Tree Solar	27.15282	20	Solar PV (Crystalline Silicon)
RAM IV	8minutenergy Renewables / saferay	86RS 8ME LLC (Hayworth Solar Farm)	19.4	15	Solar PV (Crystalline Silicon)
RAM IV	TGP Development Company, LLC	Altech III	9.8	9.8	Wind
RAM IV	Altamont Winds Inc.	Summit Wind Project	5	5	Wind
RAM IV	NextEra Energy Resources, LLC	Joshua Tree Solar	27.15282	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Apex Greenworks	29.76	20	Solar PV (Crystalline Silicon)
RAM IV	Windland, Inc.	Windland Refresh 2	7.81	7.81	Wind
RAM IV	Silverado Power LLC	Aspiration Solar D	29.76	20	Solar PV (Crystalline Silicon)

RAM IV	Silverado Power LLC	Aspiration Solar E	29.76	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Citizen Solar C	29.76	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Citizen Solar D	29.76	20	Solar PV (Crystalline Silicon)
RAM IV	TGP Development Company, LLC	San Jacinto	12.6	12.6	Wind
RAM IV	NorthLight Power, LLC	G18 Solar	7.496	6	Solar PV (Crystalline Silicon)
RAM IV	8minutenergy Renewables / saferay	87RL 8ME LLC (Woodmere Solar Farm)	19.4	15	Solar PV (Crystalline Silicon)
RAM IV	NextEra Energy Resources, LLC	Westside Solar	28	20	Solar PV (Crystalline Silicon)
RAM IV	NRG Solar LLC	Blythe II	28.3	20	Solar PV (Crystalline Silicon)
RAM IV	TGP Development Company, LLC	San Jacinto	12.6	12.6	Wind
RAM IV	NextEra Energy Resources, LLC	Westside Solar	28	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Patriot Solar A	29.76	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Patriot Solar B	29.76	20	Solar PV (Crystalline Silicon)

RAM IV	Recurrent Energy	RE Grangeville LLC	26.6	20	Solar PV (Crystalline Silicon)
RAM IV	Recurrent Energy	RE Antelope 1 LLC	13.29	10	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Victor Mesa Linda B	7.44	5	Solar PV (Crystalline Silicon)
RAM IV	NRG Solar LLC with Volt Energy as DBE partner	NRG Solar Oasis LLC	29.53	20	Solar PV (Crystalline Silicon)
RAM IV	Sustainable through Innovation, LLC	Lassen Lodge Hydro Project	5	5	Conduit Hydro
RAM IV	Silverado Power LLC	Zodiac Solar	29.76	20	Solar PV (Crystalline Silicon)
RAM IV	Gestamp Asetym Solar North America, Inc	Helm 1	27	20	Solar PV (Crystalline Silicon)
RAM IV	Gestamp Asetym Solar North America, Inc.	San Joaquin 1A	27	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Citizen Solar B	7.44	5	Solar PV (Crystalline Silicon)
RAM IV	Solar Projects Solutions, LLC	Atwell West PV Solar Generating Facility	24	20	Solar PV (Crystalline Silicon)

RAM IV	Gestamp Asetym Solar North America, Inc	San Joaquin 2A	27	20	Solar PV (Crystalline Silicon)
RAM IV	GCL-SR Solar Energy, LLC	SR Solis Oro Loma	16.999	15	Solar PV (Crystalline Silicon)
RAM IV	Gestamp Asetym Solar North America, Inc	Oro Loma IV	27	20	Solar PV (Crystalline Silicon)
RAM IV	NorthLight Power, LLC	A82 Solar	7.385	5	Solar PV (Crystalline Silicon)
RAM IV	SRPV, LLC	White Water	12.407	9	Solar PV (Crystalline Silicon)
RAM IV	EDF Renewable Energy	BAR13 Solar	25.17	18	Solar PV (Crystalline Silicon)
RAM IV	Gestamp Asetym Solar North America, Inc	Helm 1	27	20	Solar PV (Crystalline Silicon)
RAM IV	GCL-SR Solar Energy, LLC	SR Solis Rocket	20.679	15.8	Solar PV (Crystalline Silicon)
RAM IV	ENERGY DEVELOPMENT & CONSTRUCTION CORPORATION	KAREN AVENUE WIND FARM	12	12	Wind
RAM IV	Rio Bravo Solar I, LLC	Rio Bravo Solar I	26	20	Solar PV (Crystalline Silicon)

RAM IV	EDF Renewable Energy	Valentine Solar	27.56	20	Solar PV (Crystalline Silicon)
RAM IV	EDF Renewable Energy	Champagne	27.56	20	Solar PV (Crystalline Silicon)
RAM IV	EDF Renewable Energy	Maverick Solar	27.56	20	Solar PV (Crystalline Silicon)
RAM IV	Pristine Sun, LLC	Clearvista Energy 5MW Solar	6.5	5	Solar PV (Crystalline Silicon)
RAM IV	Montauk Energy Holdings, LLC	Bowerman Power LFG, LLC	23	20	Biogas
RAM IV	EDF Renewable Energy	Longboat Solar	27.56	20	Solar PV (Crystalline Silicon)
RAM IV	Silverado Power LLC	Lancaster Little Rock D	7.44	5	Solar PV (Crystalline Silicon)
RAM IV	EDF Renewable Energy	Silver Valley Solar	27.56	20	Solar PV (Crystalline Silicon)
RAM IV	ENERGY DEVELOPMENT & CONSTRUCTION CORPORATION	KAREN AVENUE WIND FARM	12	12	Wind
RAM IV	Wildwood Solar II, LLC	Wildwood Solar II, LLC	19.5	15	Solar PV (Crystalline Silicon)
RAM IV	OCI Solar Power LLC	OCI Solar Lakeside	6.7	5.5	Solar PV (Crystalline Silicon)
RAM IV	Native American Energy Resources, LLC	McFarland Solar	22	18.3	Solar PV (Thin-Film Silicon)

RAM IV	EDF Renewable Energy	Little Rock Solar	6.29	4.8	Solar PV (Crystalline Silicon)
RAM IV	EDF Renewable Energy	Smyrna Solar	11.14	8	Solar PV (Crystalline Silicon)
RAM V	8minute Energy	Lotus Solar Farm	27	20	Crystalline Silicon
RAM V	8minute Energy	Redwood Solar Farm	13.13	20	Crystalline Silicon
RAM V	Brookfield Energy Marketing	Brookfield Tehachapi 3	27	15	Crystalline Silicon
RAM V	Bull Moose Energy	Bull Moose Energy of San Diego	20	20	Biomass
RAM V	Cogentrix	Sunray - 20	25	20	Thin-Film Silicon
RAM V	Cogentrix	Sunray - 13.8	17.25	13.8	Thin-Film Silicon
RAM V	Con Edison	CED Corcoran Solar 3, LLC	27	20	Crystalline Silicon
RAM V	CRES	Community Renewable Energy Services, Inc.	13.94	12	Biomass
RAM V	E.ON	Maricopa West Solar PV 2	26.3	20	Crystalline Silicon
RAM V	E.ON	Maricopa West Solar PV 2	26.3	20	Crystalline Silicon
RAM V	E.ON	Kasson Manteca Solar	26.3	20	Crystalline Silicon
RAM V	E.ON	Kasson Manteca Solar	26.3	20	Crystalline Silicon

RAM V	E.ON	Valley Center Solar	26.9	20	Thin-Film Silicon
RAM V	E.ON	Three Rocks Solar	11.75	13	Crystalline Silicon
RAM V	E.ON	Three Rocks Solar	19	13	Crystalline Silicon
RAM V	E.ON	Valley Center Solar	26.3	20	Crystalline Silicon
RAM V	EDF Renewables	Long Boat Solar, LLC	26.9	20	Thin-Film Silicon
RAM V	EDF Renewables	Dif VI Repower, LLC	6.57	19.2	Crystalline Silicon
RAM V	EDF Renewables	Valentine Solar, LLC	26.27	20	Crystalline Silicon
RAM V	EDF Renewables	Bravo Solar, LLC	27.56	20	Thin-Film Silicon
RAM V	First Solar	Portal Ridge Solar B		19	Thin-Film Silicon
RAM V	First Solar	Windhub Solar	26.12	20	Thin-Film Silicon
RAM V	First Solar	Portal Ridge Solar B	14	11.4	Thin-Film Silicon
RAM V	Fortistar	Prima 2	5.8	4.3	Biogas
RAM V	Fortistar	Prima 2	5.8	4.3	Biogas
RAM V	Fortistar	Miramar Energy 3	3.33	3.07	Biogas
RAM V	Gestamp	HELM	27	20	Crystalline Silicon
RAM V	Gestamp	HELM	13.13	20	Crystalline Silicon
RAM V	Gestamp	ORO LOMA IV	13.13	20	Crystalline Silicon
RAM V	Gestamp	SAN JOAQUIN 1	26.6	20	Crystalline Silicon

RAM V	Gestamp	SAN JOAQUIN 2	27	20	Crystalline Silicon
RAM V	Infigen	Lucerne Valley Solar One	28.5	20	Crystalline Silicon
RAM V	Infigen	Rio Bravo Solar I	26	20	Crystalline Silicon
RAM V	Infigen	Rio Bravo Solar II	26	20	Crystalline Silicon
RAM V	Infigen	Wildwood Solar II, LLC	26.11	15	Crystalline Silicon
RAM V	NDED	San Jacinto	17.5	4.7	Crystalline Silicon
RAM V	NextEra Energy	Jacumba Solar	28	20	Crystalline Silicon
RAM V	NextEra Energy	Joshua Tree Solar	29.19	20	Crystalline Silicon
RAM V	NextEra Energy	Jacumba Solar	28	20	Crystalline Silicon
RAM V	NextEra Energy	San Jacinto Solar II	12.59	9	Crystalline Silicon
RAM V	NRG	NRG Solar Blythe II LLC	28	20	Crystalline Silicon
RAM V	SKIC Solar	SKIC Solar	11.98	10	Crystalline Silicon
RAM V	SolarReserve	SR Solis Oro Loma Teresina	26	20	Crystalline Silicon
RAM V	SolarReserve	SR Solis Rocket	4.7	15.8	Wind
RAM V	SolarReserve	SR Solis Oro Loma	26.27	17	Crystalline Silicon
RAM V	SunEdison	Gettysburg Solar	26	20	Crystalline Silicon
RAM V	SunEdison	SunEdison - Brown Field 2	3.952	3.15	Crystalline Silicon
RAM V	SunEdison	Arco Solar	26	20	Crystalline Silicon

RAM V	Sustainable Innovations	Lassen Lodge Hydro Project	5	5	small Hydro
RAM V	Sustainable Power Group	Lancaster WAD B LLC	6.57	5	Crystalline Silicon
RAM V	Sustainable Power Group	Lancaster WAD B LLC	6.57	5	Crystalline Silicon
RAM V	Sustainable Power Group	Lancaster WAD B LLC	6.57	5	Crystalline Silicon
RAM V	Sustainable Power Group	Victor Mesa Linda B LLC	4.2	3	Crystalline Silicon
RAM V	Sustainable Power Group	Central Antelope Dry Ranch B LLC	17.5	5	Crystalline Silicon
RAM V	Sustainable Power Group	Victor Mesa Linda B LLC	6.57	3	Crystalline Silicon
RAM V	Sustainable Power Group	Victor Mesa Linda B LLC	4.2	3	Crystalline Silicon
RAM V	Sustainable Power Group	Central Antelope Dry Ranch B LLC	20.679	5	Crystalline Silicon
RAM V	Sustainable Power Group	Central Antelope Dry Ranch B LLC	4.2	5	Crystalline Silicon
RAM V	Sustainable Power Group	Western Antelope Blue Sky Ranch B LLC	6.57	20	Crystalline Silicon

RAM V	Sustainable Power Group	Western Antelope Blue Sky Ranch B LLC	19.2	20	Wind
RAM V	Sustainable Power Group	Western Antelope Blue Sky Ranch B LLC	26.27	20	Crystalline Silicon
RAM V	Sustainable Power Group	Aspiration Solar G	26.3	20	Crystalline Silicon
RAM V	Sustainable Power Group	Aspiration Solar G	11.75	20	Crystalline Silicon
RAM V	Sustainable Power Group	Aspiration Solar G	11.75	20	Crystalline Silicon
RAM V	Sustainable Power Group	Western Antelope Dry Ranch LLC	20.979	10	Crystalline Silicon
RAM V	Sustainable Power Group	Western Antelope Dry Ranch LLC	26.11	10	Crystalline Silicon
RAM V	Sustainable Power Group	Western Antelope Dry Ranch LLC	26.11	10	Crystalline Silicon
RAM V	Sustainable Power Group	Patriot Solar A LLC	26.11	20	Crystalline Silicon
RAM V	Sustainable Power Group	Patriot Solar B LLC	26.6	20	Crystalline Silicon
RAM V	Sustainable Power Group	Patriot Solar A LLC	26.11	20	Crystalline Silicon
RAM V	Sustainable Power Group	Patriot Solar B LLC	26.11	20	Crystalline Silicon
RAM V	Sustainable Power Group	Patriot Solar A LLC	15	20	Wind

RAM V	Sustainable Power Group	Patriot Solar B LLC	28	20	Crystalline Silicon
RAM V	Terra-Gen Power	San Gorgonio - Altech	9.8	9.8	Wind
RAM V	Terra-Gen Power	Cameron Ridge II	11.9	11.9	Wind
RAM V	Terra-Gen Power	San Gorgonio - Windustries	10	10	Wind
RAM V	Terra-Gen Power	Alta Solar II	25.72	20	Thin-Film Silicon
RAM V	Windland	Windland Refresh 2	7.81	7.81	Wind
RAM VI	First Solar	Windhub Solar A, LLC	23.5	20	Thin-Film Silicon
RAM VI	First Solar	Windhub Solar A, LLC	23.5	20	Thin-Film Silicon
RAM VI	First Solar	Windhub Solar B, LLC	23.3	20	Thin-Film Silicon
RAM VI	First Solar	Windhub Solar B, LLC	23.3	20	Thin-Film Silicon
RAM VI	First Solar	Little Bear Solar 1, LLC	22.7	20	Thin-Film Silicon
RAM VI	First Solar	Little Bear Solar 2, LLC	22.7	20	Thin-Film Silicon
RAM VI	First Solar	Little Bear Solar 1, LLC	22.7	20	Thin-Film Silicon
RAM VI	First Solar	Little Bear Solar 2, LLC	22.7	20	Thin-Film Silicon
RAM VI	EDF	Dif VI Repower, LLC	20	20	Wind

RAM VI	E.ON	Three Rocks Solar, LLC	25.7	20	Crystalline Silicon
RAM VI	E.ON	Maricopa East Solar PV 2, LLC	13	10	Crystalline Silicon
RAM VI	EDF	Dif VI Repower, LLC	20	20	Wind
RAM VI	E.ON	Three Rocks Solar, LLC	25.7	20	Crystalline Silicon
RAM VI	First Solar	Windhub Solar A, LLC	23.5	20	Thin-Film Silicon
RAM VI	First Solar	Windhub Solar A, LLC	23.5	20	Thin-Film Silicon
RAM VI	First Solar	Windhub Solar B, LLC	23.3	20	Thin-Film Silicon
RAM VI	First Solar	Windhub Solar B, LLC	23.3	20	Thin-Film Silicon
RAM VI	Energy Development & Construction Corporation	Karen Avenue Wind Farm	11.7	11.7	Wind
RAM VI	Republic Services of Sonoma County, Inc.	Sonoma County Landfill LFGTE Project (Escalating)	6.4	6	Biogas
RAM VI	Republic Services of Sonoma County, Inc.	Sonoma County Landfill LFGTE Project (Flat)	6.4	6	Biogas
RAM VI	First Solar	Little Bear Solar 2, LLC	22.7	20	Thin-Film Silicon

RAM VI	First Solar	Little Bear Solar 1, LLC	22.7	20	Thin-Film Silicon
RAM VI	First Solar	Little Bear Solar 2, LLC	22.7	20	Thin-Film Silicon
RAM VI	First Solar	Little Bear Solar 1, LLC	22.7	20	Thin-Film Silicon
RAM VI	E.ON	Three Rocks Solar, LLC	25.7	13	Crystalline Silicon
RAM VI	54KR 8me LLC	Redwood 4 Solar Farm	27	20	Crystalline Silicon
RAM VI	Rugraw, LLC	Lassen Lodge Hydro Project	5	5	Hydroelectric
RAM VI	Solar Frontier	San Joaquin 1A Solar Farm (FCDS)	24	20	Thin-Film Silicon
RAM VI	Solar Frontier	San Joaquin 1A Solar Farm (EO)	24	20	Thin-Film Silicon
RAM VI	EDF	Patterson Pass Repower, LLC.	20	20	Wind
RAM VI	Solar Frontier	Oro Loma Solar Farm	20	20	Crystalline Silicon
RAM VI	EDF	BAR13 Solar	18	18	Solar PV
RAM VI	Phoenix Energy of Nevada, LLC	PENV Rio Bravo Poso Induction - CA Genesis I	27.5	20	Geothermal
RAM VI	EDF	Patterson Pass Repower, LLC.	20	20	Wind
RAM VI	Sustainable Power Group	Bayshore West LLC	25	20	Crystalline Silicon
RAM VI	SunEdison Inc.	Arco Solar 1 LLC	-	20	Crystalline Silicon

**v. Summary of Conforming Bids (public)**

RAM I	No. of Conforming Bids	Total Contract MW of Conforming Projects	% of Total Conforming Contract MW in RFO
Baseload	1	4.5	2%
Peaking	19	216.5	98%
<b>Total</b>	<b>20</b>	<b>221</b>	<b>100%</b>

RAM II	No. of Conforming Bids	Total Contract MW of Conforming Projects	% of Total Conforming Contract MW in RFO
Baseload	5	31.6	4.4
Peaking	67	656	91.8%
Non-Peaking	4	26.8	3.8%
<b>Total</b>	<b>76</b>	<b>714.4</b>	<b>100%</b>

RAM III	No. of Conforming Bids	Total Contract MW of Conforming Projects	% of Total Conforming Contract MW in RFO
Baseload	2	17.8	1.5%
Peaking	69	1,081	92%
Non-Peaking	7	74	6%
<b>Total</b>	<b>78</b>	<b>1,172.8</b>	<b>100%</b>

RAM IV	No. of Conforming Bids	Total Contract MW of Conforming Projects	% of Total Conforming Contract MW in RFO
Baseload	2	25	2.2%
Peaking	64	1,020	86.5%
Non-Peaking	14	133.7	11.3%
<b>Total</b>	<b>80</b>	<b>1,178.7</b>	<b>100%</b>

RAM V	No. of Conforming Bids	Total Contract MW of Conforming Projects	% of Total Conforming Contract MW in RFO
Baseload	5	28.7	3%
Peaking	49	807	89%
Non-Peaking	6	68.2	8%
<b>Total</b>	<b>60</b>	<b>903.9</b>	<b>100%</b>

RAM VI	No. of Conforming Bids	Total Contract MW of Conforming Projects	% of Total Conforming Contract MW in RFO
Baseload	3	17.0	2.9%
Peaking	27	463.0	80.1%
Non-Peaking	5	91.7	16.0%
<b>Total</b>	<b>32</b>	<b>571.7</b>	<b>100%</b>

**b. For Executed Contracts**

**i. Achievement of Project Development Milestones, (public, and as of 30 days prior to report filing)**

RAM I																						
Project Overview																						
Project Name	Company Name	Project Status (Delayed/On Schedule)	Product Category	Technology Type	Location (City/County)	RAM RFO Number	Original Bid Capacity (MW)	Installed Capacity (MW)	Full Buy/Sell or Excess Sales	CPUC Non-Applicable Approval Date	6-Month Regulatory Delay (Yes/No)	Reason for Reg. Delay										
Commercial Operation Date																						
Contract	Actual COD	Constructio n Started (Y/N)	Necessary Permits/ Govt Approvals Received (Y/N)	Necessary Permits/ Govt Approvals Filed (Y/N)	If Filed, Expected Date for Permits/ Govt Approval	If not Filed, Expected Date	IC Agreement Signed (Y/N)	IC Application Complete (Y/N)	Interconnection (IC) Status													
Stage in IC Process (Study/Permit/Construction)																						
Victor Mesa Linda B LLC	Victor Mesa Linda B LLC	Project Failed	Peaking-As-Available	Solar PV	Victorville, San Bernardino	2011 (I)	5MW	NA	Full Buy	2-Jun-12	No	N/A	18 months after CPUC Approval	Project Failed	No	No	Y	Q2-3, 2013	N/A	Yes	Yes	Agreement
Western Antelope Dry Ranch	Western Antelope Dry Ranch LLC	Project Failed	Peaking-As-Available	Solar PV	Lancaster, Los Angeles	2011 (I)	10MW	NA	Full Buy	2-Jun-12	No	N/A	18 months after CPUC Approval	Project Failed	No	Yes	Y	Q2-3, 2013	N/A	Yes	Yes	Agreement
RAM II																						
Project Overview																						
Project Name	Company Name	Project Status (Delayed/On Schedule)	Product Category	Technology Type	Location (City/County)	RAM RFO Number	Original Bid Capacity (MW)	Installed Capacity (MW)	Full Buy/Sell or Excess Sales	CPUC Non-Applicable Approval Date	6-Month Regulatory Delay (Yes/No)	Reason for Reg. Delay										
Commercial Operation Date																						
Contract	Actual COD	Constructio n Started (Y/N)	Necessary Permits/ Govt Approvals Received (Y/N)	Necessary Permits/ Govt Approvals Filed (Y/N)	If Filed, Expected Date for Permits/ Govt Approval	If not Filed, Expected Date	IC Agreement Signed (Y/N)	IC Application Complete (Y/N)	Interconnection (IC) Status													
Stage in IC Process (Study/Permit/Construction)																						
Cascade Solar	Cascade Solar LLC	Delivering	Peaking-As-Available	Solar PV	San Bernardino County	2012 (II)	18.5	NA	Full Buy	13-Dec-12	No	N/A	24 months after CPUC Approval	12/24/2013	Finished	Y	Y	N/A	N/A	Y	Y	Agreement
Pristine Sun	Cleanvista Energy, LLC	Project Failed	Non-Peaking-As-Available	Wind	Kern County	2012 (II)	9.9	NA	Full Buy	13-Dec-12	No	N/A	24 months after CPUC Approval	Project Failed	N	Y	Y	N/A	N/A	N	N	Agreement
MM San Diego	MM San Diego LLC	Delivering	Baseload As-Available	Landfill Gas	San Diego County	2012 (II)	4.5	7.5	Excess Sales	13-Dec-12	No	N/A	Existing	5/20/2013	N/A	Y	Y	N/A	N/A	Y	Y	Agreement
Lassen Lodge Hydro Project	Rugraw LLC	See RAM IV	Baseload As-Available	Hydro	Tehama County	2012 (II)	5	NA	Full Buy	13-Dec-12	No	N/A	24 months after CPUC Approval	See RAM IV	N	N	N	Q2-Q3, 2013	N/A	N	N	Study

RAM III																						
Regulatory																						
Project Overview			Commercial Operation Date				Necessary Permitting and Government Approvals			Interconnection (IC) Status												
Project Name	Company Name	Project Status (Delayed/On Schedule)	Product Category	Technology Type	Location (City/County)	RAM RFO Number	Original Bid Capacity (MW)	Installed Capacity (MW)	Full Buy/Sell or Excess Sales	CPUC Non-Applicable Approval Date	6-Month Regulatory Delay (Yes/No)	Reason for Reg. Delay	Contract GOOD	Actual COD	Construction Started (Y/N)	Necessary Permits/Govt. Approvals Received (Y/N)	If Filed, Expected Date for Permits/Govt. Approval	If not Filed, Expected File Date	IC Agreement Signed (Y/N)	IC Application Deemed Complete (Y/N)	Stage in IC Process (Study/Agreement/Construction)	
Mariacopa West Solar PV	Mariacopa West Solar PV LLC	Delivering	Peaking-As-Available	Solar PV	Kern County	2012 (III)	20	NA	Full Buy	2-JUL-13	No	N/A	24 months after CPUC Approval	12/18/2015	N	N	Q1, 2015	NA	N	Y	Study	
NLP Valley Center Solar	NLP Valley Center Solar LLC	Project Failed	Peaking-As-Available	Solar PV	San Diego County	2012 (III)	7	NA	Full Buy	2-JUL-13	No	N/A	24 months after CPUC Approval	Project Failed	N	N	Q1, 2014	NA	N	Y	Study	
Oak Creek Wind Power	Oak Creek Wind Power LLC	Delivering	Non-Peaking-As-Available	Wind	Kern County	2012 (III)	3.5	3.5	Full Buy	2-JUL-13	No	N/A	Existing, 1/28/2014	1/28/2014	N/A	Y	NA	NA	Y	Y	Agreement	
San Geronimo Westwinds II	San Geronimo Westwinds II LLC	Delivering	Non-Peaking-As-Available	Wind	Riverside County	2012 (III)	11.2	11.2	Full Buy	2-JUL-13	No	N/A	Existing, 1/20/2015	1/20/2015	N/A	Y	NA	Q2, 2014	Y	Y	Agreement	
RAM IV																						
Regulatory																						
Project Overview			Commercial Operation Date				Necessary Permitting and Government Approvals			Interconnection (IC) Status												
Project Name	Company Name	Project Status (Delayed/On Schedule)	Product Category	Technology Type	Location (City/County)	RAM RFO Number	Original Bid Capacity (MW)	Installed Capacity (MW)	Full Buy/Sell or Excess Sales	CPUC Non-Applicable Approval Date	6-Month Regulatory Delay (Yes/No)	Reason for Reg. Delay	Contract GOOD	Actual COD	Construction Started (Y/N)	Necessary Permits/Govt. Approvals Received (Y/N)	If Filed, Expected Date for Permits/Govt. Approval	If not Filed, Expected File Date	IC Agreement Signed (Y/N)	IC Application Deemed Complete (Y/N)	Stage in IC Process (Study/Agreement/Construction)	
AES Tehachapi Wind LLC	AES	Project Failed	Non-Peaking	Wind	Kern County	2013 (IV)	5.5	5.5	Full Buy	23-Dec-13	No	N/A	24 months after CPUC Approval	TBD	N/A Existing	N/A Existing	NA Existing	NA Existing	N/A Existing	N/A Existing	NA Existing	N/A Existing
Sustainable Through Innovation, Lassen Lodge Hydro	Rugraw LLC	On Schedule	Baseload	Hydro	Tehama County	2012 (III) and 2013 (IV)	5	NA	Full Buy	23-Dec-13	No	N/A	24 months after CPUC Approval	TBD	N	N	4/30/2015	NA	Y	Y	Agreement	
San Edison Origination 3 LLC (Brown Field)	SunEdison	Project Failed	Peaking	Solar PV	San Diego County	2013 (IV)	5	NA	Full Buy	23-Dec-13	No	N/A	24 months after CPUC Approval	TBD	N	N	10/31/2014	NA	Y	Y	Agreement	
Victorville Landfill Solar LP	SunEdison	Project Failed	Peaking	Solar PV	San Bernardino County	2013 (IV)	10	NA	Full Buy	23-Dec-13	No	N/A	24 months after CPUC Approval	TBD	N	N	NA	3/30/2014	N	Y	Agreement	
RAM V																						
No PPAs signed in RAM V																						
RAM VI																						
No PPAs signed in RAM VI																						

**ii. Identification of Contracted Winning Bids (public)**

**RAM I**

Offer Type	Company Name	Project Name	Technology	Contract Capacity, MW (AC)	Annual GWh	In SDG&E's Territory?	Term (yrs.)	COD
Peaking	Silverado	Victor Mesa Linda B	Solar PV	5	8.6	No	20	Project Failed
Peaking	Silverado	Western Antelope Dry Ranch	Solar PV	10	17.1	No	20	Project Failed

**RAM II**

Offer Type	Company Name	Project Name	Technology	Contract Capacity, MW (AC)	Annual GWh	In SDG&E's Territory?	Term (yrs.)	COD
Baseload	MM San Diego, LLC	MM San Diego	Biogas	4.5	28.4	Yes	10	Existing, 5/20/13
Peaking	SunEdison	Cascade Solar	Solar PV	18.4	51.4	No	20	New, 12/24/13

**RAM III**

Offer Type	Company Name	Project Name	Technology	Contract Capacity, MW (AC)	Annual GWh	In SDG&E's Territory	Term (yrs.)	COD
Peaking	E.ON	Maricopa West Solar PV, LLC	Solar PV	20	55.6	No	15	New, 12/18/15
Peaking	Northlight Power, LLC	NLP Valley Center Solar, LLC	Solar PV	7	16.0	Yes	20	Project Failed
Non-Peaking	Terra-Gen Power	Oak Creek Wind Power, LLC	Wind	3.5	6.8	No	10	Existing, 1/26/14
Non-Peaking	Terra-Gen Power	San Gorgonio Westwinds II, LLC	Wind	11.2	32.4	No	10	Existing, 1/20/15

RAM IV

Offer Type	Company Name	Project Name	Technology	Contract Capacity, MW (AC)	Annual GWh	In SDG&E's Territory	Term (yrs.)	COD
Non-Peaking	AES	AES Tehachapi Wind LLC	Wind	5.5	33.3	No	10	Project Failed
Baseload	Sustainable Through Innovation, Lassen Lodge Hydro	Rugraw LLC	Hydro	5	23.0	No	20	New, 12/15/15
Peaking	SunEdison	SunEdison Origination3 LLC (Brown Field)	Solar PV	5	14.1	Yes	20	Project Failed
Peaking	SunEdison	Victorville Landfill Solar LP	Solar PV	10	29.0	No	20	Project Failed

RAM V

Offer Type	Company Name	Project Name	Technology	Contract Capacity, MW (AC)	Annual GWh	In SDG&E's Territory	Term (yrs.)	COD
No PPAs signed in RAM V								

RAM VI

Offer Type	Company Name	Project Name	Technology	Contract Capacity, MW (AC)	Annual GWh	In SDG&E's Territory	Term (yrs.)	COD
No PPAs signed in RAM VI								

**C. Results from the Annual Bidders Forum**

SDG&E held its RAM Annual Bidders Forum on June 22, 2012. Various topics were discussed including: an overview of RAM I results, independent evaluation comments and feedback, procurement targets, an overview of important changes since RAM I, analysis of resource adequacy value (i.e. deliverability adder), and other bid selection methodology.

SDG&E requested feedback from attendees on the following topics: RAM eligibility, bid evaluation methodology, key PPA terms, solicitation process and communication. Additionally discussed were RAM II next steps and the RAM II solicitation schedule. Feedback from attendees included: better explanation and transparency as to the deliverability adder and more defined RAM eligibility criteria, specifically around project splitting.

SDG&E held its RAM Annual Bidders Forum on January 31, 2014. The forum agenda discussed much of the above, with the exception that it covered items related to RAM III and RAM IV. Feedback from attendees included: better explanation and transparency as to the deliverability adder and more defined RAM eligibility criteria, specifically around project splitting. SDG&E held its RAM Annual Bidders Forum on January 23, 2015. Various topics were discussed including: an overview of RAM I-V results, independent evaluator comments and feedback, procurement targets, and an overview of important changes since RAM V.

SDG&E requested feedback from attendees on the following topics: RAM eligibility, bid evaluation methodology, key PPA terms, solicitation process and communication. Additionally discussed were RAM VI next steps and the RAM VI tentative solicitation schedule. Feedback from attendees included: participants welcomed the use of PowerAdvocate® in the RAM VI solicitation and desired a better understanding of the RAM content categories and how the IOUs select bids in regard to them.

#### ***D. Market Competition; Market Power; Seller Concentration***

##### ***a. Market Competition***

Market competition is broadly defined as a market situation in which there exists a homogeneous product, freedom of entry, and a large number of buyers and sellers none of whom individually can affect price. Because the conditions for perfect competition are strict, there are few if any perfectly competitive markets. Still, buyers and sellers in some auction-type markets,

say for commodities or some financial assets, may approximate the concept. Perfect competition serves as a benchmark against which to measure real-life and imperfectly competitive markets.

As shown in the table below, of the six SDG&E RAM solicitations conducted to date, the number of offers and the number of total megawatts offered to SDG&E greatly exceeded the number of offers and megawatts ultimately selected and contracted for. Given the robust market size, numerous sellers (see the list of offerors in Section II.B.a.i) and small amounts ultimately selected, SDG&E believes this is a good indication of a competitive market overall.

**TABLE 1: Conforming Offers, MW, and Resulting Contracts by RAM Solicitation**

	RAM I		RAM II		RAM III		RAM IV		RAM V		RAM VI	
	Offers	MW	Offers	MW	Offers	MW	Offers	MW	Offers	MW	Offers	MW
<b>Received</b>	20	221	76	719	78	1173	80	1179	60	904	33	589.7
<b>Contracted</b>	2	15	4	22.9	4	41.7	4	25.5	0*	0*	0**	0**
<b>Percent</b>	10%	7%	5%	3%	5%	4%	5%	2%	0%	0%	0%	0%

\* Pursuant to the RAM Decision, SDG&E has the discretion to reject bids from a RAM auction if the bid prices are unreasonable or uncompetitive to SDG&E's other renewable opportunities. On January 7, 2015, the Commission approved SDG&E's AL 2669-E in which SDG&E did not sign any PPAs from its RAM V solicitation.

\*\*On January 15, 2016, SDG&E filed AL 2849-E requesting approval of SDG&E's decision to decline to enter into RAM contracts as a result of the RAM VI solicitation.

While the RAM program provides a competitive market overall, from a technology participation perspective, the RAM market is competitive to a lesser degree when examining each of the RAM content categories (*i.e.* peaking, non-peaking, and baseload) individually. As shown by the table below, peaking products have resulted in the largest number of offers and MW received in the RAM to date, with non-peaking and baseload second and third largest respectively. The table below shows the relatively small amount of offers and MW received in the RAM solicitations in the baseload category.

**TABLE 2: Number of Offers and MW by Content Category**

Content Category	RAM I		RAM II		RAM III		RAM IV		RAM V		RAM VI	
	Offers	MW	Offers	MW	Offers	MW	Offers	MW	Offers	MW	Offers	MW
<b>Peaking</b>	19	216.5	67	656	69	1,081	64	1,020	49	807	25	481
<b>Non-Peaking</b>	0	0	4	27	7	74	14	134	6	69	5	91.7
<b>Baseload</b>	1	4.5	5	32	3	17.8	2	25	5	29	3	17

It is important to note however, that sheer size of the market is only one measure of market competitiveness; another measure is competitive pricing. In general, prices within each content category (including both non-peaking and baseload) are competitive when compared against others in the content category. Further, in regards to non-peaking, non-peaking prices are competitive when compared against peaking. Baseload, while competitive in terms of price within the content category itself, it has generally not been competitive when compared against peaking and non-peaking products.

***b. Market Power***

Market power is a company's ability to manipulate price by influencing an item's supply, demand or both. A company with market power would be able to affect price to its benefit. Firms with market power are said to be "price makers", as they are able to set the price for an item while maintaining market share. RAM auctions are expressly designed to minimize the exercise of market power by keeping the barriers to entry low (which fosters greater participation), implementing non-negotiable pricing, and having buyers select sellers based upon the lowest priced bids first.

SDG&E has seen no evidence that any firms bidding into SDG&E's RAM solicitations to date have significant market power. Prices at the low end of the price curves are very competitive, and have shown a distinct downward trend from the first RAM procurement to the

sixth. This generally tracks the cost reductions for photovoltaic modules and equipment in this rapidly expanding market. No firm has captured a dominant market share in the solar energy market in California or worldwide.

***c. Seller Concentration***

Seller concentration refers to the number of sellers in an industry together with their comparative shares of industry sales. In the context of renewable energy procurement in California at the present time, the number of sellers is large, and each seller’s share of the market is small enough that in practice they cannot, by changing their selling price, perceptibly influence the market shares of competing sellers. SDG&E does not believe that seller concentration was an issue throughout the six RAM solicitations. The table below compares: 1) the number of RAM PPAs by developer/seller to SDG&E’s current total number of RAM PPAs, and 2) the total number of PPA MW by developer/seller to SDG&E’s current total number of RAM PPA MW. As shown in the table below, SDG&E has a diverse group of developers/sellers, with Terra-Gen Power representing the developer/seller with the highest number of PPAs and SunEdison representing the developer/seller with the highest percentage of PPA MWs. While the percentages for SunEdison are higher than other developers/sellers, the sample size is small and percentages may seem inflated due to the small sample size. Accordingly, while the RAM Decision does allow the IOUs to set seller concentration limits, because it has not been an issue in the RAM solicitations, SDG&E has monitored seller concentration rather than imposing a limit.

**TABLE 3: Comparison of Developer/Seller to Total # of PPAs and Total RAM PPA MW**

<b>Developer/Seller</b>	<b># of PPAs</b>	<b>Percentage of Total # of PPAs</b>	<b>Total PPA MW with Developer/Seller</b>	<b>Percentage</b>
<b>Fortistar</b>	1	16.7%	4.5 MW	7%
<b>SunEdison</b>	1	16.7%	18.5 MW	40%
<b>E.ON</b>	1	16.7%	20.0 MW	24%
<b>Terra-Gen Power</b>	2	33.3%	14.7 MW	18%
<b>Rugraw/Sustainable Through Innovation</b>	1	16.7%	5.0 MW	6%

Note: SDG&E currently has six RAM PPAs for a total of 62.7 MW

**AFFIDAVIT**

I am an employee of the respondent corporation herein, and am authorized to make this verification on its behalf. The matters stated in the foregoing **SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E) RENEWABLE AUCTION MECHANISM PROGRAM ANNUAL COMPLIANCE REPORT** are true of my own knowledge, except as to matters which are therein stated on information and belief, and as to those matters I believe them to be true.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 12th day of February, 2016, at San Diego, California

*/s/ Fernando Valero*

Fernando Valero  
Partnerships and Programs Manager  
Origination and Portfolio Design Department