From:	Geoff Fallon
To:	Jimenez, Ann
Cc:	Koutoufidis, Nicholas
Subject:	Correspondence to the Planning Commission on behalf of JVR Energy Park, LLC for the JVR Energy Park Project
Date:	Thursday, July 01, 2021 2:32:27 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png Letter to Planning Commission re Response to Jacumba Alternative - Final Signed 6.30.21.pdf

---

Dear Ms. Jimenez,

Attached is correspondence submitted to the Planning Commission on behalf of JVR Energy Park, LLC for the JVR Energy Park Project. Please include the correspondence in the Commissioners' packet for the July 9, 2021 hearing on the Project and the administrative record for the matter.

Regards,
Geoff

Geoff Fallon
EVP Development

BayWa r.e.

BayWa r.e. Solar Projects LLC
NOTE OUR NEW ADDRESS
18575 Jamboree Road, Suite 850
Irvine, CA 92612

T +1 949 398 3915
F +1 949 398 3914
C +1 949 406 2007
geoff.fallon@baywa-re.com
us.baywa-re.com

Join us on

Managing Director: Jam Attari

June 30, 2021

VIA EMAIL: Ann.Jimenez@sdcounty.ca.gov

San Diego County Planning Commission
c/o Ann Jimenez
County of San Diego
Planning & Development Services
5510 Overland Avenue, Suite 110
San Diego, CA 92123

Re: July 9, 2021 Hearing on JVR Energy Park Major Use Permit (PDS2018-MUP-18-022)

Dear Honorable Commissioners:

On July 9, the JVR Energy Park Project, a 90 megawatt ("MWac") solar project with a 90 MW (360 megawatt hour or MWh) battery energy storage system will come before the Planning Commission for your consideration. The Project will produce approximately 283,000 MWh of solar energy per year, and has signed a power purchase agreement ("PPA") with San Diego Community Power, a community choice aggregation entity that will bring renewable energy to the greater San Diego area.

One of the Project elements for the Planning Commission to consider is whether the Project's 623 acre footprint near Jacumba, California is appropriately sized for the area. In fact, we anticipate that the Jacumba Sponsor Group will propose that the Planning Commission recommend to the Board of Supervisors that it reduce the size of the Project as proposed in the Sponsor Group's "Equity for Jacumba Alternative" ("Alternative") (see Attachment A). According to a map of the Alternative, the Sponsor Group suggests that the Alternative could generate almost the same amount of renewable energy as the Project as proposed.

The factual assertions made by the Jacumba Sponsor Group about the Alternative, however, do not bear up to scrutiny as detailed below. Most significantly, the Alternative would reduce the Project's renewable solar generation capacity by approximately 61%, preventing the Project from meeting its PPA obligations with San Diego Community Power and significantly reducing the County's ability to generate clean renewable energy.

1. Acreage: The Alternative states that it would allow 300 acres for solar panel development. However, based upon an analysis of the figure provided using AutoCAD and a geo-spatially located property survey, the Alternative only proposes 245 acres for solar project development.

2. MW Production Estimate: The Alternative states that it will have a nameplate capacity of 80 MWac of solar energy. That is not the case. Based upon the development footprint specified in the figure, the Alternative will only have a solar nameplate capacity of approximately 35 MWac, sufficient to generate approximately 110,370 MWh/year. (See

Attachment B.) This production output lies in stark contrast to the Project's 90 MWac nameplate capacity and 283,000 MWh/year generating capacity.

3. Ability to Satisfy the PPA: The Project has executed a PPA with San Diego Community Power that requires the Project to produce at least 260,000 MWh/year of renewable solar energy. The Project's generation of 283,000 MWh/year will produce sufficient power for approximately 60,000 homes in the County.[1] The Alternative would prevent JVR from meeting its obligations under the PPA, and would only produce sufficient power for approximately 23,500 homes.

4. Wildlife Corridor: The Alternative claims that it will provide a longer north-south wildlife corridor. However, the Alternative would only preserve additional land on the eastern portion of the Jacumba community. That land is fallow agricultural land, and would create a corridor that runs into the border fence. In other words, the area would not provide an additional corridor for wildlife passage because the border fence would prevent movement of wildlife in a north-south direction. In contrast, the Project already provides an east-west wildlife corridor through the 700-1,100 feet wide utility easement that transects the Project site, and along Boundary Creek. These corridors allow wildlife to travel north to south through Boundary Creek and from east to west through the utility easement.

5. Supplies Jacumba Community Power: The Alternative claims that it will supply the Jacumba community with power. But there are no technical specifications for that provision incorporated in the figure provided. Such a plan cannot be implemented by the County because the power output of the Project has been fully contracted with San Diego Community Power. Also, the Project only has an interconnection agreement with San Diego Gas & Electric and the California Independent System Operator (CAISO) to connect the Project with the East County-Boulevard 138kv transmission line, and would have to apply for a new interconnection position to connect at any other location on the grid.

6. Compatibility with the Jacumba Airport: The Alternative claims that it permits safe airport operations. The Project already satisfies that criteria. The Project is consistent with the Airport Land Use Compatibility Plan for the Jacumba Airport and has been deemed safe by professional glare engineers, as demonstrated in Table 3.1.4-6 of Section 3.1.4, Land Use and Planning, of the Final Environmental Impact Report.

It is not possible to reduce the size of the Project by over 60% and still generate a commensurate amount of renewable solar energy.

[1] The University of San Diego estimates that San Diego County homes used on average 4.681 MWh per year in 2019. See https://www.sandiego.edu/soles/hub-nonprofit/initiatives/dashboard/electricity.php#:~:text=End%20of%20interactive%20chart.,per%20home%20(about%2015%25).

Thank you for your careful consideration of this matter. Please do not hesitate to contact me with any additional questions or concerns.

Sincerely,

Geoff Fallon

Geoff Fallon
EVP Development
BayWa r.e. Solar Project LLC
(949) 398-3915
Geoff.Fallon@baywa-re.com

Attachments

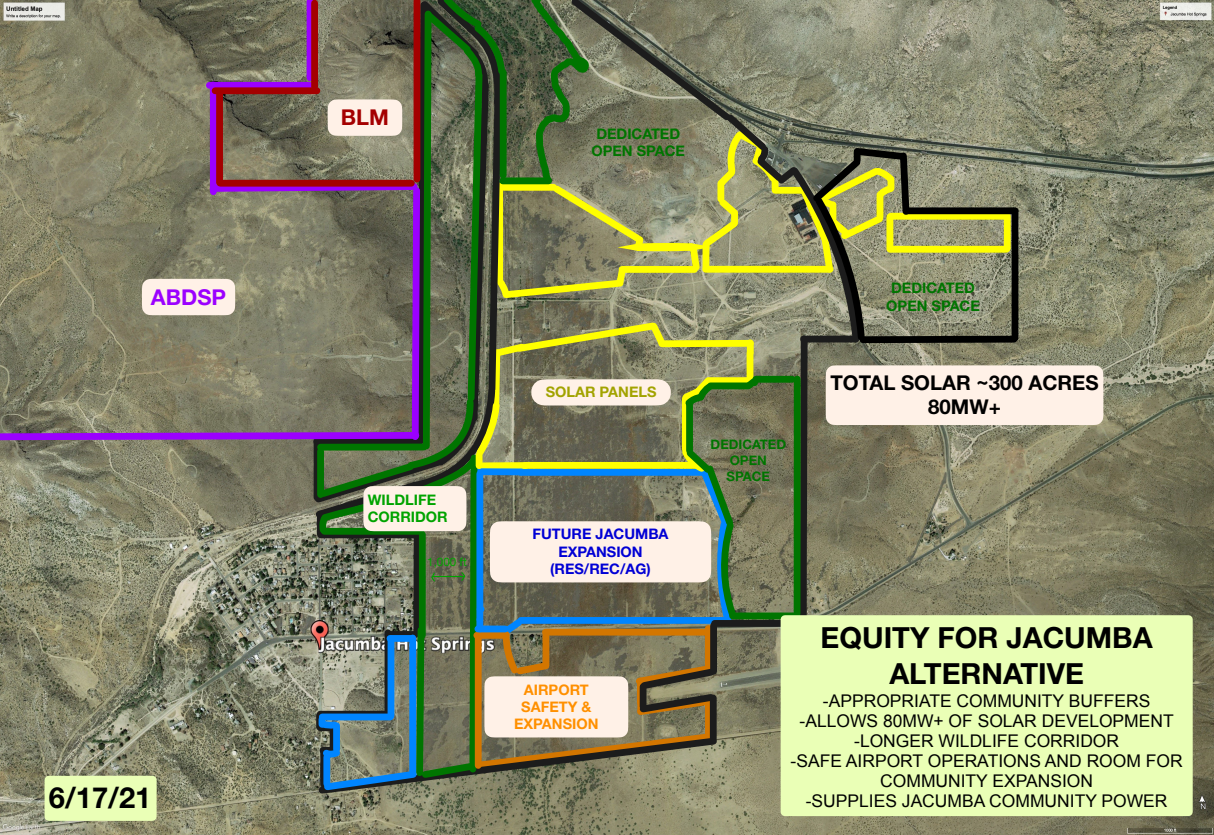
A. Jacumba Community Sponsor Group, Equity for Jacumba Alternative (June 17, 2021).
B. BayWa r.e. Solar Projects LLC, “Technical Analysis Memo re Equity for Jacumba Alternative” (June 30, 2021).

Attachment A

Jacumba Community Sponsor Group, Equity for Jacumba Alternative

June 17, 2021

BayWa r.e. Solar Projects LLC | 18575 Jamboree Road, Suite 850 | Irvine, CA 92612 | Phone: +1 949 398 3915
solarprojectsus@baywa-re.com | www.baywa-re.us |


BLM
ABDSP
DEDICATED OPEN SPACE
DEDICATED OPEN SPACE
SOLAR PANELS
TOTAL SOLAR ~300 ACRES
80MW+
DEDICATED OPEN SPACE
WILDLIFE CORRIDOR
FUTURE JACUMBA EXPANSION (RES/REC/AG)
AIRPORT SAFETY & EXPANSION
EQUITY FOR JACUMBA ALTERNATIVE
-APPROPRIATE COMMUNITY BUFFERS
-ALLOWS 80MW+ OF SOLAR DEVELOPMENT
-LONGER WILDLIFE CORRIDOR
-SAFE AIRPORT OPERATIONS AND ROOM FOR COMMUNITY EXPANSION
-SUPPLIES JACUMBA COMMUNITY POWER
6/17/21

Attachment B

JVR Energy Park—Technical Analysis Memo re Equity for Jacumba Alternative
June 30, 2021

BayWa r.e. Solar Projects LLC | 18575 Jamboree Road, Suite 850 | Irvine, CA 92612 | Phone: +1 949 398 3915
solarprojectsus@baywa-re.com | www.baywa-re.us |

JVR Energy Park—Technical Analysis Memo re Equity for Jacumba Alternative

To: County of San Diego Planning Commission

Date: June 30, 2021

This JVR Energy Park Project ("Project") technical memorandum has been generated in response to the "Equity for Jacumba Alternative" ("Alternative") submitted by Cherry Diefenbach. Ms. Diefenbach submitted a figure displaying the Alternative's development footprint. This memorandum calculates the acreage of the Alternative displayed in the figure and the potential energy generation of the Alternative.

I am a licensed professional engineer responsible for solar project design as a Project Engineer at BayWa r.e. Solar Projects LLC. Among other areas of expertise, I am versed in the use of the computer programs AutoCAD, PVSyst (a program used to calculate projected energy production by a given solar project design), and PVWatts, a publicly accessible web-based software similar to PVsyst. My resume is attached as Appendix B, hereto.

Development Footprint

AutoCAD is a computer-aided design and drafting software application that is utilized to create precise 2D and 3D drawings. Using the geo-spatially located property survey of the Project site and the figure provided by Ms. Diefenbach, the software calculated the acreages for the Alternative's "Solar Panels" area (the area highlighted in yellow) as approximately 245 acres, not 300 acres as claimed by the Alternative's figure.

Energy Generation

In Appendix V of the Final Environmental Impact Report for the Project, it was explained that minor reductions in acreages for solar projects may not impact a project's ability to meet its energy generation objective. In such scenarios, energy generation capacity can be maintained by optimizing design characteristics and maintaining the inverter/transformer platforms on site. However, maintaining energy generation capacity is not feasible if a project's acreages are significantly reduced. The number of photovoltaic modules and inverters will be required to be reduced because there is insufficient space to accommodate them in the development footprint while maintaining the industry-standard ratio of power capacity of the facility relative to how much power a facility can transfer to the grid. Accordingly, substantial reductions in the size of a solar project's development footprint would result in a proportional decrease in a solar project's power capacity.

As applied here, the Alternative would have a development footprint that is approximately 61% smaller than the Project's development footprint, meaning the Alternative's power generation capacity would be reduced by 61% when compared to the Project. In other words, the Alternative would produce

approximately 35 MWac (90 MWac x .39 = 35MWac) and 110,370 MW hours per year (283,000 MWh/year x .39 = 110,370 MWh/year), not 80 MW as claimed by the Alternative.

As explained in Appendix V of the Final Environmental Impact Report, the anticipated energy produced by a solar facility can also be calculated through a publicly available software, called PV Watts, using the given power capacity to the grid (ac) and power capacity generated from the solar array onsite (DC). The PV Watts report for the Alternative is attached hereto as Appendix A and estimates that the Alternative could generate 95,776 MW hours per year. This result assumes the Alternative would utilize mono-facial modules because the PVWatts program does not allow for bi-facial module analysis. Accounting for bi-facial modules would increase this estimate between 5% and 20% percent, which supports the conclusion above that the Alternative would produce approximately 110,370 MW hours per year.

Regards,

Akhila Krishnan

Akhila Krishnan, P.E.

Project Engineer

BayWa r.e. Solar Projects LLC | 18575 Jamboree Road, Suite 850 | Irvine, CA 92612 | Phone: +1 949 398 3915
solarprojectsus@baywa-re.com | www.baywa-re.us |

Appendix A

PVWatts Calculation for Equity for Jacumba Alternative

NREL
NATIONAL RENEWABLE ENERGY LABORATORY

Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at https://sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

The energy output range is based on analysis of 30 years of historical weather data for nearby , and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

RESULTS

95,776,944 kWh/Year*

System output may range from 91,419,093 to 96,715,558 kWh per year near this location.

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
January	4.88	5,260,817
February	5.81	5,733,714
March	7.77	8,324,302
April	9.52	9,549,132
May	10.73	10,610,909
June	11.43	10,860,776
July	10.23	10,111,949
August	9.51	9,127,017
September	8.61	8,144,490
October	7.22	7,468,327
November	5.46	5,630,826
December	4.48	4,954,706
Annual	7.97	95,776,965

Location and Station Identification

Requested Location	32.63,-116.13	
Weather Data Source	Lat, Lon: 32.61, -116.14	1.5 mi
Latitude	32.61° N	
Longitude	116.14° W	

PV System Specifications *(Commercial)*

DC System Size	41466 kW
Module Type	Standard
Array Type	1-Axis Backtracking
Array Tilt	0°
Array Azimuth	180°
System Losses	9.14%
Inverter Efficiency	99%
DC to AC Size Ratio	1.22
Ground Coverage Ratio	0.38

Performance Metrics

Capacity Factor	26.4%

Appendix B

Resume of Akhila Krishnan, P.E.

AKHILA KRISHNAN, PE
Foothill Ranch, CA 92630 · akhilakr@usc.edu

SUMMARY:

Ms. Akhila is currently serving as Project Engineer for BayWa r.e. Solar Projects. She has seven+ equivalent years of experience in disciplines including engineering, permitting, energy, policy, and education. She has two engineering degrees in electrical engineering – a bachelor's and a Master's, and her qualifications also include professional engineering (P.E.) license and a diploma in Sustainability. Her specific experience in the solar industry is in both residential and utility-scale PV systems. Her experience with the California Public Utilities Commission provides a well-informed insight into state-level engineering-policy nexus. She is involved in several multi-disciplinary organizations which contribute to her thorough work, and successful completion of a variety of projects.

WORK EXPERIENCE:

Project Engineer — BayWa r.e. Solar Projects, LLC

- ***Project Engineering*** for acquisition, greenfield and construction solar+storage projects in **12+ US states** totaling **3+ GW**
- Evaluate **Power Purchase Agreement** on technical basis; **oversee EPCs** for high-voltage interconnection yards and PV construction; coordinated **Engineering and EPC RFPs, Independent Engineer RFPs** and evaluated bids on cost, technicality, experience, and project timeline.
- ***Inverter SME*** for BayWa portfolio of projects under development; creating inverter technology roadmap, assessing its suitability for projects, documenting lessons learned and managing relations with manufacturers on technical side.
- **Engineering due diligence** in understanding the project lifestyle, from initial design to EPC handoff, ability to understand complex development and permitting requirements.

Design Engineer — BayWa r.e. Solar Projects, LLC

- ***Design Engineering,*** for initial-stage PV utility-scale solar farms in US and MX, ranging from 1MW – 500MW
- **Established standards** for design and energy production for Engineering; coordinate drafting (consultant) and estimate requests.
- ***Electrical & Energy Engineering:*** Created **tools to calculate reactive power needs** supplied by inverters and capacitor banks; prepared **tool to calculate soiling on PV modules** through analyzing meteorological station data; conducted site visits to measure albedo using albedometer; researched on weather sources for their accuracy and applicability.
- Manage Design Engineering and collaborate with Project Engineers, Sales Engineers and Development team to make all deliverables estimate-ready.
- Run **energy production analysis** for locations in US and Mexico and prepare project schedule.
- Request EPC quotes from vendors and subcontractors on acquired projects to refine project estimates for financial model.

Senior PV Systems Designer — Sunrun, Inc.

- **Designed and prepared permitting submittal review for Oahu's (HI) first PV with energy storage system** and successfully resolved all design complications leading it to be the first Tesla Powerwall battery install (BrightBox-™) for Sunrun.
- **Estimated $36,000 (Sunrun) and $6000 (Customer) in savings** for 12 out of 30 projects by avoiding 'Main Panel Upgrade'.
- Eliminated issues in bill of materials through audits, bringing down failure occurrences to 2 per Branch Office by maintaining closed-loop feedback from Installation, Operations, Planning and Permitting.
- **Verified and improved AHJ and Utility (AZ, HI, OR, NV) requirements' database repository** through 235+ design evaluations.
- Recognized at yearly corporate conference for excellent communication and design support.
- Train and mentor 15+ Designers – in person and remote – under the regional team of 5 states: Arizona, Nevada, Oregon, Colorado for quality, performance, and updated design procedures.

Senior PV Systems Designer **Sunrun, Inc.**

- **Crafted 300+ residential solar PV system designs**, totaling up to 7.5MW capacity of renewable energy to residential homes by US using AutoCAD and (Sunrun proprietary) software with thorough understanding of NEC codes, wire sizing, load calculations, voltage drop, etc.
- Primary designer for Prescott, AZ and serving POC for every design under it; pushed the Branch at 2nd position in the company by collaborating with Branch Personnel to keep customer needs at top priority and lowest turnaround time for all projects.
- Categorized as role-model performer; delivered projects for toughest AHJs like NYC, in turn eliminating regional project backlog, while displaying extreme attention to detail and design concept clarity, eventually achieving Risk Taker Award.

Research Assistant **California Public Utilities Commission**

- **Provided decision-making recommendations on CPUC resolutions to the President of the Commission and the Energy Advisor** on matters related to **smart grid, R&D, transmission infrastructure and their budgets**, saving the executive department much time to comprehend and summarize an average of 40-page resolutions.
- Researched and created CPUC Staff Report on **PG&E utility smart grid pilots** for progress on line sensors; doubled the value of research by providing comparison to other utilities' progress.
- Facilitated analysis based on parties' testimonies for multi-functional teams on Demand Response (DR) market paradigm,
  supporting renewable integration and system reliability to aid planning perspective on market/protocol design in DR ruling.

Energy Engineering Associate Intern **Visage Energy**

- Analyzed more than 50 proposals for SCE Living Pilot Project supporting SONGS retirement, narrowing down to four proposals for every category to be implemented after the nuclear power plant retirement in San Onofre.
- Determined and developed strategies for mixed-use of reliability measures including Energy Efficiency, DSM and Storage by evaluating proposals for best integration of non-traditional strategies.
- Provided analyses, prepared reports and presented to Executives on stakeholder collaborative aspect for the pilot program.

Teaching Assistant **USC Viterbi School of Engineering**

- Evaluated each paper exam by fine-tuning the difficulty level based on student batch, increasing the class performance.
- Assisted Professor for 'Introduction to Power Systems' (EE 443) with class lectures and conversations.
- Lead class projects, proctored exams and provided lecture plus assignment support to more than 40 students.

CREDENTIALS: Fundamentals of Engineering (F.E.)/ (E.I.T.), Professional Engineer (P.E.), Electric Power; ENGAGE Graduation Diploma – In Sustainability

SOFTWARE: AutoCAD, Power World, ETAP, System Advisor Model (SAM), Vensim, MS Suite, Salesforce, BrightPath, PVSyst.

UNIVERSITY PROJECT EXPERIENCE:

Renewable Energy Project Development Plan: Concentrated Solar PV – 340MW, Utility Scale

- Developed PV plan with energy estimate for 100,000 selected (Google Earth) customers in California working in a team of 4.
- Prepared Project Cash Flow using System Advisor Model (SAM) factoring bank financing, tax, credits and incentives.
- Compiled the complete plan- inception to energizing- with environmental studies, project schedule and commissioning.

Formula One Car Project

- Managing and issuing project scope, statement, schedule and Work Breakdown Structure for prototype design and construction of Formula One car in lieu of business development, leading a team of 6 as the Project Manager.
- Driving profitability in execution of the 3-stage project by adjusting priorities and incorporating lessons learned.
- Leveraging strengths of individual team members with respect to project phases and requirements to bring out the best in a short period of time while construing an environment of trustworthiness, respect and enthusiasm.
- Eliminating incompetency by analyzing performances, incorporating iterative process for thorough task execution and evaluation based on instructor feedback and proactive risk management.

Design Bid Construction Project: USC Apartments, USC

- Prepared Design-Bid-Build proposal for a mixed-use residential apartment leading a team of 6 with a complete plan.
- Provided a complete plan from inception to contacting to commissioning including scheduling, budgeting and staging plan.
- Submitted RFIs and final proposal with the best real cost estimate of the project leading to win the contract for the firm.

Energy Modeling: Apple Data Center

- Analysis of energy estimate for Apple's Maiden Data Center and monitoring change in energy production and consumption over next 17 years with additive renewable capacity (solar PV and fuel cell) for both of primary and back-up facilities.
- Performed sustainability check and energy engineering evaluations using analytical tool (Vensim) inclusive of energy efficiency response of the facility and changing demand in future due to square foot expansion of the center.

Design Project: Transmission Planning Assessment and System Planning for Generation Retirement

- Determined least expensive system additions considering rights-of-way, tower configuration and bus ties to meet reliability
  criteria and improve economic efficiency of a 37-bus system.
- Performed N-1 contingency analysis ensuring safe operation during failures and develop improvements to transmission
  planning based on least-cost design.
- Designed new transmission lines and transformer positions to model a wind farm into the grid with lower system losses.

***230/115 kV* Substation Protection and Design**

- Designed one-line engineered diagram with highly redundant microprocessor relays and circuit breaker positions to
  encompass the physical layout of the substation using MS Visio.
- Deployed protection criteria like phase distance, directional ground over current, line differential schemes for both pilot
  and non-pilot protection by choosing and evaluating suppliers and products.
- Developed relay trip/contact logic and engineered settings for relay schemes like Direct Transfer Trip, Directional,
  Comparisional Block, etc. to facilitate communication among relays and DC diagram with output contact assignment.

POWER WORLD Problem Set

- Developed a set of 8 original problems using Power World to tie-in theoretical concepts to practical real world problems.
- Performed sensitivity analysis to aid in technical performance study of the system used for power flow models.

EDUCATION:

University of Southern California (USC), Los Angeles, California
Viterbi School of Engineering, Master of Science, Electrical Engineering- Electric Power, GPA: 3.55/4.00
University Institute of Technology (UIT), R.G.P.V. Bhopal, India
Bachelor of Engineering, Electrical and Electronics, GPA: 3.60/4.00

LEADERSHIP

President, USC Energy Club
Member Organizations: IEEE Power & Energy Society (PES), IEEE Women in Engineering (WiE), Young Professionals in Energy (YPE), Women of Renewable Industries and Sustainable Energy (WRISE)

AWARDS

Pacesetters Club, Sunrun
Risk Taker Award, Sunrun
Second Position, NODAL Volleyball, India