

# Energy Conservation Engineer

---

## Position Details

---

### Employee Information

Employee First Name [REDACTED]  
 Employee Last Name [REDACTED]  
 Employee ID [REDACTED]

### Classification Information

Position Classification Title Engineer  
 Class Code 00576  
 FLSA Overtime Exempt  
 EEO Category 40 - Professionals  
 Employee Class 28-NFE FLSA Exempt Employees

### Position Information

Position Number [REDACTED]  
 Department SDSU-Facilities & Services-Energy Systems  
 Pay Grade [REDACTED]  
 Physical Location of Position (City) Brookings  
 Work Hours 8am-5pm Monday – Friday  
 This position requires Valid Drivers License  
 If other, please indicate  
 Supervisor [REDACTED]  
 Employee SDSU-NFE \*VACANT  
 Irregular Work Hours Occasionally scheduled irregular work hours (a few times a month)  
 What percent of time on the job involves travel away from this position's work site? 5%

---

## Purpose of Position

---

### Purpose of Position

**Purpose of the Position**

This position is instrumental in conserving the University's energy usage through the development, design, management and coordination of construction and renovation projects affecting energy conservation; providing support to the Engineering Shop in utilities management.

**Education and Experience**

**What level of completed formal education is required for this position?**

Four-year college degree.

**Please list any education that is required for this position, including field of study for the level of required education.**

Mechanical Engineering

**What number of year(s) of related experience is required for this position?**

Less than 1 year.

**Please list any special certification or licensure that is required for this position.**

Valid Driver's License.

**Other Requirements**

Knowledge of building HVAC systems. Knowledge or experience in Project management desirable.

**Organizational Structure**

**Supervisor's other direct reports**

Physical Plant Manager I (HVAC)  
Physical Plant Manager I (Heating Plant)  
Senior Mechanical Engineer  
Program Assistant II

**Supervisory Responsibility**

**Position Supervises**

No

**This position gives guidance, work direction and training to others, but does not hire, terminate or do performance appraisals.**

**This position gives guidance, work direction and training to others, does performance evaluations and recommend hiring and terminating decisions.**

**This position supervises non-supervisors including hiring, terminating and conducting performance appraisals.**

**This position supervises supervisors including hiring, terminating and conducting performance appraisals.**

Please list the different functional areas or departments in which this position supervise employees.

## Direct Report Titles

---

## Job Duties

---

### Job Duties

<b>Percent of Time</b>	35
<b>Result expected of this job</b>	Design and manage energy conservation projects as well as other building, remodel and renovation projects.
<b>Activities to achieve result</b>	Gather information for designs, conduct technical surveys, prepare and develop plans, specifications, cost estimates, and schedules; develop building energy models, prepare energy benchmarks for buildings, generate energy reports; develop project energy savings, coordinate with Office of the State Engineer to bid projects; close out projects.
<b>Measures of how well one has achieved the result</b>	Projects are finished on time, designs are reasonable, workable, economical and of high quality, specifications and code requirements are met, budget is met, projected energy savings is met.
<b>Physical and mental effort required to achieve the result, as well as any potential hazards</b>	Ability to understand codes and regulatory requirements; ability to design and organize; ability to foresee project costs; ability to select the correct materials. Ability to synthesize and organize information.
<b>Other Requirements</b>	N/A
<b>Essential Duty</b>	Yes
<b>Percent of Time</b>	20
<b>Result expected of this job</b>	Project management of maintenance and repair projects with energy conservation considerations.
<b>Activities to achieve result</b>	Review work performed by contractors and consultants to ensure conformance to department and overall campus needs, conformance to code and good general engineering practice. Write technical specifications and prepare construction drawings and estimates.
<b>Measures of how well one has achieved the result</b>	Level of satisfaction with clients. Appraisals and discussions with my supervisor. Timely completion of projects with few unforeseen problems during construction. Comparison of actual costs to estimates.
<b>Physical and mental effort required to achieve the result, as well as any potential hazards</b>	Ability to understand the client's technical needs in enough detail to ensure the design fits their needs. Interpersonal skills to handle clients who want more than their budget will allow, contractors or consultants who disagree with the scope of the work. Ability to understand applicable utility systems to conserve energy.
<b>Other Requirements</b>	N/A
<b>Essential Duty</b>	Yes

**Percent of Time**

30

**Result expected of this job**

Provide support to the Director of Energy Systems in utilities management.

**Activities to achieve result**

Utilize software to update utilities information. Run complete analysis of systems and processes and calculate values such as steam line losses, etc. Trouble shoot to assist building maintenance shops with utilities issues.

**Measures of how well one has achieved the result**

Campus energy usage will become efficient, and energy waste will be identified and corrected.

**Physical and mental effort required to achieve the result, as well as any potential hazards**

Gather information, ability to analyze systems and calculate values. Interpersonal skills to work with building maintenance employees on utility issues.

**Other Requirements**

N/A

**Essential Duty**

Yes

**Percent of Time**

10

**Result expected of this job**

Maintain planned, preventative maintenance program.

**Activities to achieve result**

Set up new preventative maintenance work orders for new equipment. Modify existing as needed.

**Measures of how well one has achieved the result**

Reduced energy consumption, reduced equipment failures and replacement costs by doing proper preventative maintenance.

**Physical and mental effort required to achieve the result, as well as any potential hazards**

Ability to analyze equipment needs for maintenance versus available resources, and make informed decisions. Draw conclusions from historical data.

**Other Requirements**

N/A

**Essential Duty**

Yes

**Percent of Time**

5

**Result expected of this job**

Promote energy conservation and sustainability projects or measures on campus.

**Activities to achieve result**

Write articles for the Energy Conservation blog, collegian, and other publications. Present campus energy conservation projects to campus groups.

**Measures of how well one has achieved the result**

Number of Articles published, and presentations conducted.

**Physical and mental effort required to achieve the result, as well as any potential hazards**

Participate in project development, identify opportunities to develop articles that present energy conservation efforts, success, results, and challenges. Write informative articles and deliver informative presentations.

**Other Requirements**

N/A

**Essential Duty**

Yes

## Problems

---

### Problem Solving

Every position requires the employee who works in it to solve problems. For example, a position might require the employee to choose one of two ways to handle a disgruntled student or fellow employee. Select the one statement below that best describes the kinds of problems this position solves and the discretion used for their solution.

<b>Nature of the Problem</b>	The problems in this position are varied.
<b>Discretion to Solve the Problem</b>	Gets help from supervisors or others in handling unusual problems.
<b>To solve problems, people use information and facts. Please select the statement that best describes the information this position has to fix problems.</b>	Specific information is usually not available and must be obtained elsewhere.
<b>Please give us an example of how easy or difficult it is to find the information needed to use when this position solves problems</b>	This position needs to come up with specific solutions for energy conservation, determining energy usage for campus building and renovation projects. Information comes from a variety of sources and must be integrated to solve a problem.
<b>Does this position have spending authority for funds over \$10,000?</b>	No
<b>If yes, identify number of funds and total budget amount?</b>	

### Problem & Policies, Procedures or Directions

Please list three problems that are frequently solved as part of this position. Then tell us the policies, procedures or directions used to solve the problem.

<b>Problem</b>	Analyze energy consumption of systems and constructed alternatives.
<b>Policies, Procedures or Directions</b>	Follow design methods with investigation of problem to be solved. Use code, manufacturer's information, good judgment, professional practice and existing system limitations in design.
<b>Problem</b>	Answer energy usage questions as applied to building maintenance projects on campus. Analyze potential projects for potential to save energy and/or to address maintenance problems.
<b>Policies, Procedures or Directions</b>	Calculate values, analysis of systems and processes; work with energy conservation software. Prepare reports of energy conservation projects.
<b>Problem</b>	Coordinate project construction and material acquisition for energy related projects.
<b>Policies, Procedures or Directions</b>	Purchasing and contracting procedures and consultation with contractors and suppliers.

## Decisions

---

### Decision Making

**The decisions this position makes primarily affect** The work of others outside the department but within the institution.

**Please select the statement that best describes the scope of this position's decision making authority** Authority to make decisions regarding work.

### Decision Making Examples

**Please describe one or more decisions that this position is responsible for making without getting approval from anyone** Technical decisions on work changes in some projects, types of energy conservation equipment most applicable for a particular job based on initial cost, operating and maintenance costs and functionality of the equipment.

**Please describe one or more decisions that this position is responsible for making without getting approval from anyone** How to resolve questions raised by contractors or Facilities & Services employees who are installing a project I have designed.

**Please describe one or more decisions that this position is responsible for making without getting approval from anyone** Determine what detail is required on specifications and plans to obtain fair bids; meet the design intent and stay within the available budget and time constraints.

**Please describe one or more decisions that this position is responsible for making without getting approval from anyone** The scope of a project to fit an available budget.

### Impact of Decisions

Please check beside each statement that best describes the impact of typical errors that may occur in this position even on an infrequent basis

**If an error is made in this position, it would directly affect** Others outside work area.

**If an error is made, it is usually caught by** Someone outside work area but within the institution.

**Errors this position makes are usually caught** Within one month.

**Errors this position makes are fixed** Within one month.

**If an error is made, the cost (money, time, effort) of errors on this position is usually** Limited.

**A typical error's harm/hardship to others would be** Limited.

**A typical error's impact on the institution's reputation would be** Limited.

### Examples of Errors

**Please give two examples of errors that could be made by someone in this position. Please include information on who would catch the error, how long it would take to** Errors in project documents, which are usually caught by my supervisor during reviews. Errors are corrected after reviews are completed.

correct, how much effort it would take to correct the error, etc

**Please give two examples of errors that could be made by someone in this position. Please include information on who would catch the error, how long it would take to correct, how much effort it would take to correct the error, etc**

If wrong equipment or materials are selected / installed at a job, inefficiencies or shortened life spans may occur. Additionally, equipment may not fulfill design intent.

## Working Contacts

### Students

**Provide information regarding normal requests, reports or this department's operation** Rarely, if ever

**Explain policies or give expert advice/instruction to help others make decisions** Rarely, if ever

**Influence others to gain their cooperation in order to get work done** Rarely, if ever

**Handle confidential or sensitive information** Rarely, if ever

**Please provide an example of the kind of services this position provides** Engineering students for assistance on special projects or are touring our facilities. Energy Conservation public relations campaigns.

### Other Employees

**Provide information regarding normal requests, reports or this department's operation** Weekly

**Explain policies or give expert advice/instruction to help others make decisions** Weekly

**Influence others to gain their cooperation in order to get work done** Weekly

**Handle confidential or sensitive information** Monthly

**Please provide an example of the kind of services this position provides** Provide cost estimates and project summaries for departmental administrators. Answer technical questions from maintenance staff. Explain designs to clients; proposed solutions, how it will work and features of the design.

### Public

Monthly

**Provide information regarding normal requests, reports or this department's operation**

**Explain policies or give expert advice/instruction to help others make decisions**

Monthly

**Influence others to gain their cooperation in order to get work done**

Rarely, if ever

**Handle confidential or sensitive information**

Rarely, if ever

**Please provide an example of the kind of services this position provides**

Write articles on energy conservation for publication in Collegian or other campus newsletters. Answer general questions regarding current and upcoming energy related projects on campus. Often this involves determining what information can and should be released and what is confidential.

## Working Conditions

### Cognitive Requirements

**Please check the appropriate response that describe the cognitive requirements for this position.**

Analyzing, Comprehend, Frequent Change, Intense Customer Interaction, Logic, Memory, Multiple Priorities, Multiple Stimuli, Pace-average, Pace-fast, Perform calculations, Reading, Reasoning, Verbal Communication, Written Communication

### Protective Clothing/Equipment

**Please check the appropriate response for this position's use of the following protective clothing or equipment.**

Ear Protection (including earplugs), Eye Protection, Latex Gloves, Other

**If other protection is used please identify**

Hard hat; High visibility vest

### Physical Requirements

**Please designate the physical requirements of this position**

Balancing, Bending, Stooping, Twisting, Carrying, Climbing Ladders, Climbing Stairs, Crawling, Crouching, Driving, Fine Finger Manipulation (keyboarding, pipefitting, bench work, etc), Grasping, Kneeling, Lifting Above Waist, Lifting Below Waist, Lifting light, Lifting moderate, Lifting heavy, Pushing/Pulling, Reaching, Repetitive Motion, Sitting for sustained periods of time, Squatting, Standing for sustained periods of time, Stretching, Use Both Hands, Use of Either Hand, Independently, Walking, Wrist Movement (twisting or rotating)

**Describe any of the conditions selected**

### Sensory Requirements

**Please check the appropriate response that describe the sensory requirements for this position.**

Depth Perception, Distant Vision, Hearing, Near Vision, Speaking, Vision (With and without corrective lenses)

### Working Conditions & Exposures

**Working Conditions or Exposures (or potential exposures) that this position may encounter during the course of the work day.**

Atmospheric Contaminants (includes odors & fumes), Biohazard, Changes of Temperature, Chemical Hazards, Electrical Current, Exposure or Potential Exposure to Blood/Body Fluids, Exposure to Dust, Exposure to Noise, Extreme Cold, Extreme Heat >100F, Extreme Weather Conditions (wind, rain, snow, humidity), Radiation, Vaccination recommended due to potential occupational exposure, Vibrations, Walking/Standing on rough or uneven surfaces (gravel, rocks, etc), Walking/Standing on wood, metal or concrete, Work in confined/congested spaces (tunnels), Work in narrow aisles/passageways, Work Overhead, Working Around Machinery, Working from scaffolding and high places

**Please describe, in more detail, any of the conditions checked above**

### Working Environment

**Check the appropriate box(es) that best describes the environment in which the primary function of the position is performed.**

Animal Facility, Animal Research Farm, Athletic/Wellness Facilities, Classroom Environment, Clinical Environment, Farm or Grassland Environment, Greenhouse Environment, Lab Environment, Mechanical Facility, Office Environment, Outdoors Environment

**If you have indicated Other Environment, if work tasks involve one or more of the above, or if further explanation is necessary, please use the space provided.**

## Supervisory Position

### Supervisor Position Description

<b>Job Title</b>	Director of Energy Systems
<b>Position Number</b>	██████████
<b>Org Unit</b>	SDSU-Facilities & Services-Energy Systems
<b>First Name</b>	██████
<b>Last Name</b>	██████
<b>Email</b>	██

### Position Documents

No documents have been attached.

### Position Requisition

#### Requisition Information

All fields in this section are visible to applicants.

Energy Conservation Engineer

**Working Title**

**Appointment Percent** 100

**Is any portion of this position Grant Funded?** No

**Faculty Status** No

**Duration of the Term** 12 months

**If Other, describe duration**