Outdoor Lighting

POLICY

It is the University's policy to provide optimum nighttime campus lighting for maximum security, while minimizing risks to safety and adverse effects on the environment and night sky.

PURPOSE

This policy is predicated on the need to balance the following objectives and concerns:

1) To ensure nighttime safety and security for VSU students and personnel, and to provide optimum nighttime visibility on the VSU campus.
2) To avoid unnecessary hazards to motorists and pedestrians created by lateral glare from building, street, or parking lot light fixtures. Lateral glare is defined as a light beam projecting from a fixture more than 70 degrees above straight downward.
3) To minimize undesirable light trespass and illumination of Valdosta's night sky.
4) To conserve energy, for both environmental and economic reasons.
5) To minimize adverse effects of artificial nighttime illumination on local nocturnal animals.
6) To restore and preserve a suitable level of night-sky darkness to ensure adequate visibility of celestial objects from the VSU Observatory, a scientific and educational facility of regional importance.

PROCEDURES

1) Specifics of design and installation of new lighting and retrofitting of existing lighting should be done after a survey and consulting the International DarkSky Association (IDA) and Illuminating Engineering Society of North America (IESNA) Model Lighting Ordinance and checking for updates on the IDA webpage (http://darksky.org/our-work/public-policy/mlo/).

2) Any currently existing lighting fixture that does not satisfy these guidelines (see "Purpose" as well as "Procedures" paragraphs 3-7 below) should be removed, redirected, or shielded within a reasonable period of time, budget permitting, to minimize light trespass, light pollution of the night sky, and over-illumination within the VSU campus area. The Environmental Issues Committee, working with the SGA and COSA, will present needs to the Budget Advisory Council with regard to the design and retrofitting of campus outdoor lighting fixtures to be in compliance with this policy.

   It is recommended that an annual after-dark, walk-through of existing lighting fixtures be conducted during the fall semester to determine compliance with Procedures paragraphs 3-7 (below) of this Outdoor Lighting Policy, as mentioned above, and a summary of recommendations for actions to be taken, if any, should be submitted to Plant Operations. The walk-through will be scheduled by the Chief of Police, who should invite, at a minimum, minimum, a representative from each of the following: Plant Operations, EIC, EIC Subcommittee on Resource Conservation, Environmental and Occupational Safety, University Police, Campus Safety and Security Committee, Student Government Association, and a member of Students Against Violating the Environment (S.A.V.E.).

3) Full consideration should be given to the appropriate placement, density, and elevation of lights, to avoid over-illumination of any given area and to minimize glare and light trespass. As an example, a higher

density of lower-elevation, lower-intensity light fixtures might be chosen over a smaller number of high-elevation, high-intensity fixtures providing comparable illumination. High-elevation lights particularly should be adequately shielded to minimize lateral glare. Properly shielded and well-placed fixtures should allow adequate illumination of the ground generally not exceeding 200,000 net lumens per acre for parking lots, and 20,000-100,000 net lumens per acre for other campus areas, depending on level of use; sport field lighting levels will be higher (exception 7c).

4) No single lamp should exceed 1800 lumens unless housed in a "full cutoff" fixture (i.e. it is fully shielded) so that all light is directed downward with no lateral glare. Full cutoff fixtures are recommended for all outdoor lighting. A recommended maximum per fixture of 180 watts Low Pressure Sodium (LPS), 250 watts High Pressure Sodium (HPS) or Metal Halide (MH), and 400 watts Mercury Vapor (MV, see 7c below) should provide adequate brightness for most campus uses (this equals 20,000 to 33,000 lumens per fixture depending on lamp type), especially when proper design and placement of fixtures is considered.

5) Because energy conservation is and will increasingly be an important consideration, preference should be given to the most efficient lamp type (highest lumens/watt) that is feasibly and effectively used in a given lighting situation. For light intensities typical of large scale outdoor uses, LED is the most efficient lamp type, followed by Low-Pressure Sodium (LPS), High-Pressure Sodium (HPS), and then Metal Halide (MH); Mercury Vapor (MV) lamps are substantially less energy efficient; these and MH also produce potentially toxic mercury waste when disposed of, and should therefore be avoided, except in special circumstances where a case can be made for their necessity. Compact fluorescent is very energy efficient and may be feasibly used for some smaller-scale lighting needs. LPS lamps may be effectively used where true color rendering is not deemed important for security or other purposes (or where the latter could be provided for by additional individual lights of other types) and are particularly advantageous near the astronomical observatory. Although somewhat true of all lamp types, MH and especially MV lamps fade in intensity over time, providing less luminance and sometimes altered quality while drawing the same wattage.

6) As of 2016, new LED fixtures are rapidly replacing the aforementioned types of lights for outdoor uses, because they promise greater energy efficiency and longer bulb life. However, this new technology can come with serious unintended negative consequences, because, currently, the most efficient LED bulbs are rich in the high-energy blue wavelength of white light (or "cool white"). Blue light from LEDs: a) causes increased glare and produces darker shadows at the periphery of the area lit by the lamp and has been shown to cause nighttime vision problems for pedestrians and drivers, because its intensity causes the pupils to constrict more than does warm white light; b) can alter natural behavior and disrupt reproduction in urban wildlife species, and has a dominant wavelength (460 nm) that coincides with maximal human circadian sensitivity; and c) is more likely to contribute to light pollution because blue-rich LED has a significantly larger geographic reach than lighting with less blue light. Therefore, VSU should follow the latest recommendations from IDA1 and strive to use only "warm-white" or filtered LEDs (correlated color temperature [CCT] < 3,000 K; scotopic/photopic [S/P] ratio < 1.22[1]) to minimize blue emission. Other practices that should be followed are to: a) avoid the temptation to overlight because of the increased luminous efficiency of LEDs; b) consider the effect of pole height on reach of lights, avoiding poles that are

[1] generally, the relative effect of lighting on night vision vs. daylight vision; higher ratios reduce night vision

too tall and thus extend the horizontal reach of glare; and c) light only the exact space and in the amount required for particular tasks.

7) In campus areas that experience very little nighttime usage, it is suggested that illumination be triggered by motion detectors or manual on/off switches wherever feasible. This could be done on an experimental basis.

EXCEPTIONS

A. Any state or federal laws and/or regulations that may take precedence.
B. Temporary emergency or construction situations that may require additional lighting for performance of specific tasks.
C. Sporting or other special events, where the special lighting is used only during the event.
D. Illumination of monuments, structures, or flagpoles, providing every effort is made to direct the illumination to minimize light trespass and lateral glare.
E. Effort is made to direct the illumination to minimize light trespass and lateral glare.
F. Any other situation in which the VSU Administration can make a special case for a variance, subject to consultation with the Environmental Issues Committee of the Faculty Senate.

AFFECTED STAKEHOLDERS

Indicate all entities and persons within the university affected by this policy:

☐Alumni	☐Graduate Students	☐Undergraduate Students
☒Staff	☒Faculty	☐Student Employees
☐Visitors	☒Vendors/Contractors	☐Other:_____

POLICY ATTRIBUTES

Responsible Office(s)	Plant Operations and Facilities Planning, 2903 N. Ashley St., 229-333-5875 Faculty Senate Environmental Issues Committee
Approving Officer or Body	University Council
Date Approved	09/19/2018
Reviewed	12/12/2018
Next Review Date	09/20/2023
Other	This policy has been developed with the aid of guidelines established by the Illuminating Engineering Society of North America and by the International Dark-Sky Association. Revisions Passed by VSU Faculty Senate, January 25, 2018 Originally Passed by VSU Faculty Senate, 15 November 2001.

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	Adopted as VSU Policy, 14 January 2002, according to VSU Statutes, Chap. 4, Art. I, Sect. 3.