



Solar Power Plant and Substation Design Project

IOWA STATE UNIVERSITY and BLACK AND VEATCH

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Safety Moment

Eating and Hydration Habits

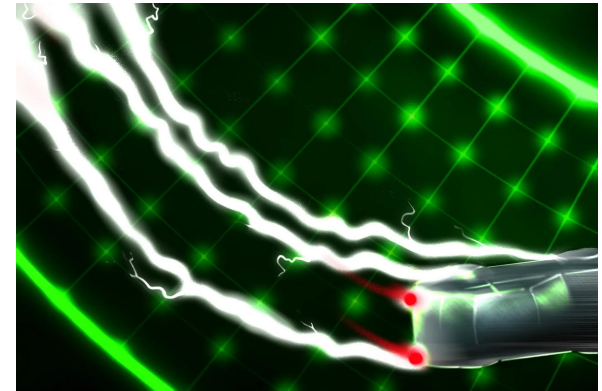
- These habits affect our energy levels, performance, how we think, emotional states, and safety
 - Poor eating habits such as high processed foods, sugar filled treats, and caffeine can lead to:
 - Increased blood sugars
 - Diabetes
 - Mood swings and high stress levels
 - Low levels of energy
 - Causes distractions at work
 - Experts say that up to 50% of our daily activities are mindless habits
 - Mindless habits can lead to accidents in the workplace if you are not conscious of the decisions you make
 - Dangerous - putting people's lives at risk
- Ways to become more alert
 - Develop good eating habits
 - Try not to skip meals
 - Eating fruits and vegetables
 - Choose tea instead of coffee



New Tech

Car Charging Roads

- How it Works
 - Recycled Ferrite added to concrete and magnetized to create magnetic field
 - A plate or box made of patented material is buried inside the roadway at a depth of a few inches
 - Box contains coils of wire that connect to the power grid through specialized electronic transmitter
 - Transmitters placed in roadway one after the other
 - Surrounding the transmitter is normal roadway material



<https://www.nytimes.com/2021/11/29/technology/electric-cars-magnetic-roads.html>

New Tech

Car Charging Roads

- Indiana Department of Transportation and Purdue University plan to implement the technology in July
 - Project is being undertaken by an engineering research center called Advancing Sustainability Through Powered Infrastructure for Roadway Electrification (ASPIRE)
- Benefits:
 - Increased Range of Electric Vehicles
 - Increased Viability of Electric vehicles
 - Electric Hauling Trucks could become more popular
- Challenges
 - Inductive Charging of vehicle batteries not one of the industry's top priorities
 - Air Gap between Road and Car could decrease Power Transmission capabilities



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