

Chapter 1 : The Cost of Nuclear Power | Union of Concerned Scientists

*The Power of Business Process Improvement: 10 Simple Steps to Increase Effectiveness, Efficiency, and Adaptability [Susan Page] on calendrierdelascience.com *FREE* shipping on qualifying offers.*

Wendy Underhill Initiative In political terminology, the initiative is a process that enables citizens to bypass their state legislature by placing proposed statutes and, in some states, constitutional amendments on the ballot. The first state to adopt the initiative was South Dakota in 1895. Since then, 23 other states have included the initiative process in their constitutions, the most recent being Mississippi in 1901. That makes a total of 24 states with an initiative process. There are two types of initiatives: In the direct process, proposals that qualify go directly on the ballot. In the indirect process, they are submitted to the legislature, may act on the proposal. Depending on the state, the initiative question goes on the ballot if the legislature rejects it, submits a different proposal or takes no action. In some states with the indirect process, the legislature may submit a competing measure that appears on the ballot along with the original proposal. In Utah and Washington, proponents may select either the direct or indirect method. No two states have exactly the same requirements for qualifying initiatives to be placed on the ballot. Generally, however, the process includes these steps: If enough valid signatures are obtained, the question goes on the ballot or, in states with the indirect process, is sent to the legislature. Once an initiative is on the ballot, the general requirement for passage is a majority vote. Exceptions include Nebraska, Massachusetts and Mississippi. Those states require a majority, provided the votes cast on the initiative equal a percentage of the total votes cast in the election: In Wyoming, an initiative must receive a majority of the total votes cast in a general election. In Nevada, initiatives amending the constitution must receive a majority vote in two consecutive general elections. Referendum "Referendum" is a general term which refers to a measure that appears on the ballot. There are two primary types of referenda: The popular referendum is similar to the initiative in that both are triggered by petitions, but there are important differences. Legislatures are often required to refer certain measures to the ballot for voter approval. For instance, changes to the state constitution must be approved by voters before they can take effect. Many state legislatures are also required by their state constitutions to refer bond measures and tax changes to the voters. Although this is not always the case, legislative referenda tend to be less controversial than citizen initiatives, are more often approved by voters than citizen initiatives, and often receive higher vote thresholds. Legislative referenda may appear on the ballot in all 50 states. The popular referendum is a device which allows voters to approve or repeal an act of the Legislature. If the Legislature passes a law that voters do not approve of, they may gather signatures to demand a popular vote on the law. Generally, there is a day period after the law is passed during which the petitioning must take place. Once enough signatures are gathered and verified, the new law appears on the ballot for a popular vote. During the time between passage and the popular vote, the law may not take effect. If voters approve of the law, it takes effect as scheduled. If voters reject the law, it is voided and does not take effect. Most of them are also initiative states. A third form of referendum, the advisory referendum, is rarely used. In this form of the process, the Legislature, and in some states the governor, may place a question on the ballot to gauge voter opinion. The results of the election on this question are not binding. An example of an advisory referendum is Question 5, which appeared on the Rhode Island ballot in 1970. Placed on the ballot by the governor, Question 5 asked voters if they favored changing the state constitution to make the three branches of government co-equal. Although voters overwhelmingly voted yes, the question was non-binding and the governor and legislature were not obligated to act upon the measure. Recall Recall is a procedure that allows citizens to remove and replace a public official before the end of a term of office. Recall differs from another method for removing officials from office – impeachment – in that it is a political device while impeachment is a legal process. Impeachment requires the House to bring specific charges and the Senate to act as a jury. In most of the recall states, specific grounds are not required, and the recall of a state official is by an election. Eighteen states permit the recall of state officials. A recent, high-profile example of the recall process was the recall of California Governor Gray Davis and his replacement with Arnold Schwarzenegger in 2003.

Summation or integration of the spectral components yields the total power (for a physical process) or variance (in a statistical process), identical to what would be obtained by integrating () over the time domain, as dictated by Parseval's theorem.

Based on the decay rate, flow rate, and the length of cooling water flowing through at a given temperature, the TRO level in the cooling water of a power plant could be estimated using the equation developed in this study. This predictive model would provide a benchmark for power plant operators to adjust the addition of chlorine to levels necessary to control bio-fouling of cooling water intake pipelines, but without irritating ambient marine organisms. Introduction Operation of thermal or nuclear power plants located near the seashore requires massive amounts of water for cooling purposes. Inevitably, many sedentary marine organisms, such as barnacles, spirorbis, oysters and bryozoa proliferate on the inner wall of cooling water intake pipelines. The growth of these marine organisms can reduce the rate of thermal exchange, restrict water movement, clog the pipeline, or erode and perforate the wall of the pipeline [1 , 2]. Under extreme circumstances, power plant operators may have to cease operation to clean and repair the pipeline system. One such case occurred in a thermal power plant of Taipower the Power Company of Taiwan , where 50 tons of sessile marine organisms had to be removed from the pipeline during a single cleaning process. Many power plants are located near the coasts due to the easy access of seawater for cooling; thus, fouling is a worldwide problem that extends beyond Taiwan. Many techniques have been developed to inhibit the settlement of sedentary marine organisms [3 â€” 8]. Among these techniques, adding chlorine is a widely accepted method to simply and efficiently prohibit fouling. The use of chlorine to avoid fouling occurrence has the supposed benefit of rapid decay of chlorine toxicity. One major drawback of chlorine, however, is that interactions between chlorine and seawater can induce complex chemical reactions that produce compounds with higher toxicity, such as alkyl halides. Additionally, previous studies have indicated that bromine ions in the presence of chlorine would be converted to hypobromic acid and hypobromite, and even molecular bromine [9 , 10]. Similarly, the co-existing iodide and iodate in seawater can be converted into hypoiodic acid, hypoiodate, and molecular iodine. Hypobromic acid can also oxidize iodine ions to release bromine ions. Due to the rapid decay of chlorine in seawater, it is unnecessary to use chlorine residue to evaluate its impact to a marine environment. An estimate of the pool of halide derivatives in seawater is a more realistic measure of the potential chlorine impact. Therefore, the American Public Health Association [11] suggested the use of a standard method to determine total residual oxidant TRO rather than measuring chlorine residue when dealing with seawater samples. When chlorine is used as an anti-fouling reagent in a power plant, TRO remaining in discharge seawater is almost inevitable. Contamination of water by TRO can result in adverse effects on fishery activities, which can irritate local fishermen and residents [12 â€” 17]. The maximum level of chlorine residue allowed in discharge water in Taiwan is 0. However, exceeding this level of chlorine residue is difficult due to high reactivity of chlorine in seawater addressed above. Therefore, there is an increasing importance to establish guidelines for the addition of chlorine to seawater for power plant operators, as well as to produce a more realistic view of the impact of chlorine on the marine environment. In this study, we re-evaluate a TRO determination method, iodine colorimetry, with its feasibility on monitoring the TRO level in seawater, and examine the decay of chlorine in seawater at elevated temperatures that would be similar to the cooling water from a power plant. The results from this study provide a baseline for the operator of power plant to balance the tradeoff between antifouling requirements and environmental protection. Results and Discussion 2. Absorbance at increased at a rate of 0.

Chapter 3 : Initiative, Referendum and Recall

The Power of Process: Unleashing the Source of Competitive A BPTrends Book Review Kiran K. Garimella Meghan-Kiffer Press, \$ pages The Power.

Meaning "one who has power" is late 14c. Meaning "specific ability or capacity" is from early 15c. Meaning "a state or nation with regard to international authority or influence" [OED] is from Used for "a large number of" from s. Meaning "energy available for work is from Sense of "electrical supply" is from Phrase the powers that be is from Rom. As a statement wishing good luck, more power to someone is recorded from A power play in ice hockey so called by Power failure is from ; power steering from Show More If a servant complained of being abused, his master had no power to retain him. But I have a secret dread of the character and power of Alcibiades. Has this fearful pestilence no power to restrain the appetites and passions of the people? Then I shall have to put it out of your power to carry out your threat. He was forced to admit that the girl still had power to trouble him. Our peace with the power with whom we had been engaged had also been concluded. All others lay claim to power limited only by their own will. By whom, let us ask, had this Minister been brought into power? It alone has the power to provide revenues for the Government. It is a danger that lurks and hides in the sources and fountains of power in every state.

Chapter 4 : News, Tips, and Advice for Technology Professionals - TechRepublic

The House has several powers assigned exclusively to it, including the power to initiate revenue bills, impeach federal officials, and elect the President in the case of an electoral college tie.

Several fundamental methods exist to convert other forms of energy into electrical energy. The triboelectric effect, piezoelectric effect, and even direct capture of the energy of nuclear decay Betavoltaics are used in niche applications, as is direct conversion of heat to electric power in the thermoelectric effect. Utility-scale generation is done by rotating electric generators, or by photovoltaic systems. A very small proportion of electric power distributed by utilities is provided by batteries. Generators[edit] Electric generators transform kinetic energy into electricity. It can be seen experimentally by rotating a magnet within closed loops of a conducting material e. Almost all commercial electrical generation is done using electromagnetic induction, in which mechanical energy forces a generator to rotate: Electrochemistry[edit] Large dams such as Hoover Dam can provide large amounts of hydroelectric power; it has 2. Electrochemistry is the direct transformation of chemical energy into electricity, as in a battery. Electrochemical electricity generation is important in portable and mobile applications. Currently, most electrochemical power comes from batteries. Open electrochemical systems, known as fuel cells, can be used to extract power either from natural fuels or from synthesized fuels. Osmotic power is a possibility at places where salt and fresh water merges. Photovoltaic effect[edit] The photovoltaic effect is the transformation of light into electrical energy, as in solar cells. Photovoltaic panels convert sunlight directly to electricity. Although sunlight is free and abundant, solar power electricity is still usually more expensive to produce than large-scale mechanically generated power due to the cost of the panels. Recent advances in manufacturing efficiency and photovoltaic technology, combined with subsidies driven by environmental concerns, have dramatically accelerated the deployment of solar panels. Wind turbines usually provide electrical generation in conjunction with other methods of producing power. Economics of generation and production of electricity[edit] See also: Cost of electricity by source The selection of electricity production modes and their economic viability varies in accordance with demand and region. The economics vary considerably around the world, resulting in widespread selling prices, e. Hydroelectric plants, nuclear power plants, thermal power plants and renewable sources have their own pros and cons, and selection is based upon the local power requirement and the fluctuations in demand. All power grids have varying loads on them but the daily minimum is the base load, supplied by plants which run continuously. Nuclear, coal, oil and gas plants can supply base load. Thermal energy is economical in areas of high industrial density, as the high demand cannot be met by renewable sources. The effect of localized pollution is also minimized as industries are usually located away from residential areas. These plants can also withstand variation in load and consumption by adding more units or temporarily decreasing the production of some units. Nuclear power plants can produce a huge amount of power from a single unit. However, recent disasters in Japan have raised concerns over the safety of nuclear power, and the capital cost of nuclear plants is very high. Hydroelectric power plants are located in areas where the potential energy from falling water can be harnessed for moving turbines and the generation of power. It is not an economically viable source of production where the load varies too much during the annual production cycle and the ability to store the flow of water is limited. Due to advancements in technology, and with mass production, renewable sources other than hydroelectricity solar power, wind energy, tidal power, etc. Many governments around the world provide subsidies to offset the higher cost of any new power production, and to make the installation of renewable energy systems economically feasible. However, their use is frequently limited by their intermittent nature. The turbine drives a generator, thus transforming its mechanical energy into electrical energy by electromagnetic induction. There are many different methods of developing mechanical energy, including heat engines, hydro, wind and tidal power. Most electric generation is driven by heat engines. The combustion of fossil fuels supplies most of the energy to these engines, with a significant fraction from nuclear fission and some from renewable sources. Steam Large dams such as Three Gorges Dam in China can provide large amounts of hydroelectric power; it has a The steam is generated by Biomass, Solar thermal energy where

solar parabolic troughs and solar power towers concentrate sunlight to heat a heat transfer fluid, which is then used to produce steam, or Geothermal power. Combined cycle are driven by both steam and natural gas. They generate power by burning natural gas in a gas turbine and use residual heat to generate steam. Water Energy is captured from the movement of water. From falling water, the rise and fall of tides or ocean thermal currents. The windmill was a very early wind turbine. In a solar updraft tower wind is artificially produced. Although turbines are most common in commercial power generation, smaller generators can be powered by gasoline or diesel engines. These may used for back up generation or isolated villages.

Chapter 5 : PowerTip: Use PowerShell to Find Total CPU Time – Hey, Scripting Guy! Blog

Just like death and taxes, one thing we can count on is that tomorrow's operating systems and applications will require more processing power than today's.

Chapter 6 : Spectral density - Wikipedia

Power Spectra of the Total Occupancy in the Totally Asymmetric Simple Exclusion Process D.A. Adams, R.K. P Zia, and B. Schmittmann Department of Physics, Virginia Tech, Blacksburg, Virginia , USA.

Chapter 7 : IMF Members' Quotas and Voting Power, and IMF Board of Governors

Once the power reaches its delivery point, it goes through a step-down (or reduction of voltage) process at switching stations. Here the V is stepped down to approximately V before being sent to the first component of the distribution system – the substation - and eventually to your home.

Chapter 8 : Our Commitment to the Environment and Community Engagement | calendrierdelascience.com

Biomass, the source of about 2% of total U.S. electricity generation in , is burned directly in steam-electric power plants, or it can be converted to a gas that can be burned in steam generators, gas turbines, or internal combustion engine generators.

Chapter 9 : Electricity generation - Wikipedia

Summary: Use Windows PowerShell to find the total CPU time of a process.. How can I return a timespan that represents the total CPU time of a process? Use the Get-Process cmdlet and select the TotalProcessorTime property.