

Subject - Chemistry ~~SEM - I~~ MDC-3

SEM - III - MDC-3

Source of energy (nuclear energy),

Nuclear energy is the power released from the core of an atom, specially from its nucleus, through either splitting or combining atomic particle. In another word we can say that nuclear energy is a form of energy released from the nucleus, the core of atom, made up of proton and neutron. This source of energy can be produced into two ways fission (splitting of nuclei of atom) and fusion (nuclei fuse to gather).

In the fission process we found that nucleus of an atom splits into more smaller nuclei while release energy. In this reaction when hit by a neutron, the nucleus of an atom of Uranium-235 splits into two smaller nuclei for example barium nucleus and a krypton nucleus and two or three neutrons. These extra neutrons will hit other surrounding uranium 235 atom, which will also split and generate additional neutrons in a multiplying effect, thus generating a chain reaction in a fraction of

a second.

Each time reaction occurs, there is a release of energy in the form of heat and radiation. The heat can be converted into electricity in a nuclear power plant, similarly to how heat from fossil fuel such as coal, gas and oil is used to generate electricity.

Working of Nuclear Power plant

Inside the nuclear power plants, nuclear reactors and their equipment contains and control the chain reaction, most commonly fuelled by uranium-235 to produce heat through fission. The heat warms the reactor's cooling agent, typically water to produce steam. The steam is then channelled to spin turbines, activating an electric generator to create low carbon electricity.

