The Demonstration Fuel Reprocessing Plant (DFRP) at IGCAR, Kalpakkam was originally sanctioned on 27.3.2003 at an expenditure of ₹ 44.64 crore which was revised to ₹ 88.62 crore on 22.3.2007 is to demonstrate the feasibility as well as validate the process of fast reactor fuel reprocessing. The entire amount sanctioned for the plant has been spent.

(c) FRFCF is a first of its kind project. It is reviewed periodically by statutory regulatory bodies as per the laid down procedures for a project of this magnitude.

The requisite approvals are in place for the DFRP and regulatory clearances are obtained in stages during the commissioning.

(d) The FRFCF project now under construction is scheduled to be completed by November 2018. DFRP is in an advanced stage of construction and commissioning and the plant would be commissioned by March, 2016.

Conversion of sea water into potable water

324. KUMARI SELJA: Will the PRIME MINISTER be pleased to state:

(a) whether sea water can be converted into potable water by atomic energy;

(b) if so, the details thereof including the projects set up for this purpose along with the quantity of the potable water produced by them;

(c) the cost of conversion of sea water into potable water by using atomic energy; and

(d) whether Government proposes to set up more such projects in the country during the current financial year, and if so, the details thereof along with the funds allocated for such projects?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH): (a) Yes, Sir.

(b) Desalination of sea water is possible by using Thermal Desalination Technology and/or Membrane Technology like Reverse Osmosis (RO). Thermal and/or electrical energy from Atomic Power Station or Nuclear Research Reactor/s can be used for this purpose. A sea water desalination plant set up as part of Nuclear Desalination Demonstration Project (NDDP) at Kalpakkam, Tamil Nadu produces 45 lakh litres of water per clay by Thermal Desalination process, drawing nuclear low pressure steam from the operating Madras Atomic Power Station (MAPS) and 18 lakh litres of water per day using membrane based technology using electrical energy from MAPS grid. The plant is the largest operating hybrid nuclear desalination plant in the world. The plant produces dual quality of water - water for high-end industrial applications of quality less than 10 mg per litre of TDS (Total Dissolved Solids) and potable water of less than 500 mg per litre of TDS for drinking and other applications.

(c) The sea water desalination plant set up at Kalpakkam is a demonstration plant. The cost of water produced depends upon many factors like cost of electricity, quality of required end product, choice of technologies, sea water quality, local infrastructure and logistics etc. On an average, the cost of conversion of sea water into desalinated water is about 10 paise per litre of water produced.

(d) No, Sir. At present, there is no proposal before the Government to set up a sea water desalination plant using atomic energy.

Safety and security of nuclear plants

325. DR. V. MAITREYAN : Will the PRIME MINISTER be pleased to state:

(a) whether Government has ensured the safety and security for all the Nuclear/ atomic power plants of NPCIL and the Department for ensuring hi-tech electronic security and surveillance;

(b) if so, the details thereof and the list of atomic/nuclear power Projects initiated in the country and the total amount allocated so far in the last five years;

(c) whether NPCIL and AERB have planned to allocate any funds for the security and surveillance to install Perimeter Detection Solutions and CCTV Camera and Biometric surveillance gadgets and surveillance system for all the nuclear/atomic power plants in the country; and

(d) if so, the details thereof and if not, the reasons therefor?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH) : (a) Yes Sir. Nuclear Power Plants in India are required to obtain clearances from-- Atomic Energy Regulatory Board (AERB). Nuclear safety and security aspects are reviewed by AERB before giving clearance for various stages of the projects from siting onwards.

AERB has specified safety and security requirements in its Codes and Guides which are in line with international standards. AERB has rigorous process for reviewing Nuclear Safety and Nuclear Security aspects of nuclear power projects through multi-tier reviews, apart from periodic regulatory inspections, to ensure adherence to the requirements.