

A framework is a supporting structure around which something can be built.
It can be understood as a system of rules, ideas, or beliefs that is used to plan or decide something

Reference: Cambridge Dictionary

A critique on Legal and Regulatory framework for Nuclear Renaissance

Soumen Sinha, AERB

ATOMIC ENERGY (PRE-INDEPENDENCE)

Government of India Act 1935

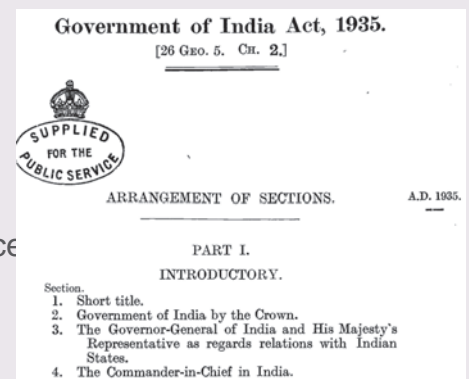
Seventh Schedule

1. **Federal list** (59 items) for the Centre
2. **Provincial list** (54 items) for the Provinces
3. **Concurrent list** (36 items) for both the Centre and Provinces

Entry 34 & 36 of Federal list

34: Development of industries, where development under Federal control is declared by Federal law to be expedient in the public interest.

36. Regulation of mines and oilfields and mineral development to the extent to which such regulation and development under Federal control is declared by Federal law to be expedient in the public interest.



ATOMIC ENERGY BILL 1948

Statement of Objects and Reasons

The development and use of atomic energy is a question of national importance.

The Atomic Energy Bill would give **the Government powers to control** the development of atomic energy in India and the disposal of the relevant raw materials, so that these may be used for the advantage of the people as a whole.

In order to ensure secrecy, provision has been made in the Bill for security measures which would be necessary

ATOMIC ENERGY ACT 1948

Section 2:

Declaration as to expediency of Central Government's Control

It is hereby declared that it is expedient in the public interest that the Central Government should take under its control the development of –

- a) any industry connected with the production or use of atomic energy, and
- b) any mineral which is or may be used for the production or use of atomic energy on research into matters connected therewith.

CONTROL ON PRODUCTION OF ATOMIC ENERGY

Section 10:

The Central Government may, by **order published in the official gazette**, prohibit, except under a licence granted by it, -

- the working of any minerals specified in the order, being minerals from which in the opinion of Central Government any of the prescribed substance can be obtained;
- the acquisition, production, treatment, possession, use, disposal, export or import-
 - Any of the prescribed substances; or
 - Of any mineral specified in the order
 - Of any plant designed or adapted or manufactured for the production or use of atomic energy or for research into matters connected therewith

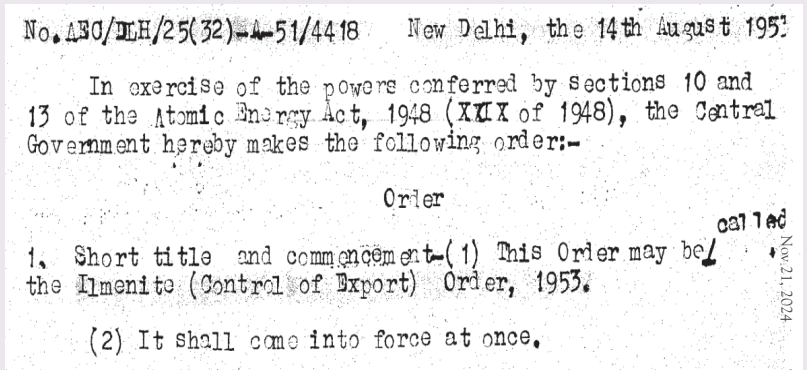
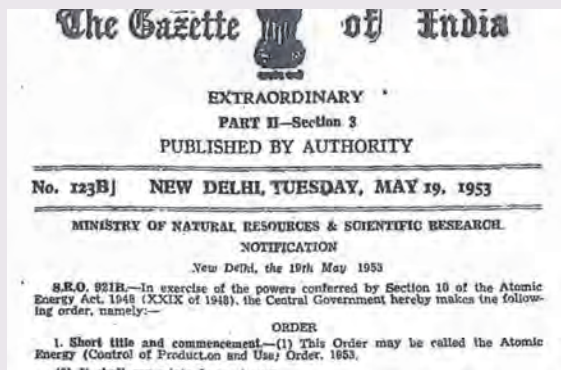
June 1948- Dept. of Scientific Research created

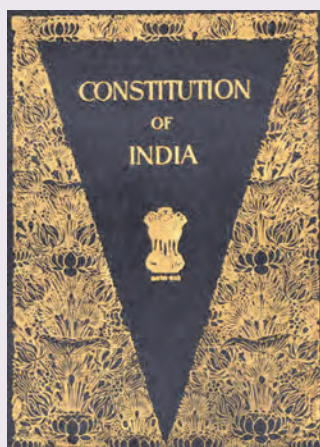
August 1948- Atomic Energy Commission (AEC) set up under Dept. of Scientific Research

July 1949: Rare Earths Survey Unit is brought under the AEC and named as 'Raw Materials Division', with HQ at New Delhi. In 1958, this unit becomes AMD

ORDERS PUBLISHED IN GAZETTE

- Atomic Energy (Control of Production and Use) Order, 1953
- Ilmenite (Control of Export) Order, 1953





Seventh Schedule Union List -Entry 6

Parliament to legislate on matters related to atomic energy and mineral resources necessary for its production

1950 - CONSTITUTION OF INDIA

Article 13 (1)

- Pre-Constitutional laws, in so far as they are inconsistent with the provisions of fundamental rights guaranteed by the Constitution, shall, to the extent of such inconsistency, be void.
- Atomic Energy Act 1948 remained in force post adoption of Constitution of India

ATOMIC ENERGY BILL 1962

April 1951: uranium deposit at Jaduguda is discovered by AMD. Drilling operations commence in December 1951

December 1952: Rare Earths Plant of IREL at Alway, Kerala is dedicated to the nation for production of rare earths & thorium-uranium concentrates

August 1954: DAE established

March 1958-AEC was established in DAE

August 1956: Apasra Criticality

August 1957: AEET training school starts functioning.

January 1959: Uranium Metal Plant at Trombay produces first ingot of uranium

July 1960: CIRUS attains criticality

January 1961: Zerlina attains criticality

NPPs at Tarapur site coming up

NPPs at Rawatbahat site planned

NPPs in south India in planning stage

Statement of Hon'ble Prime Minister Jawahar Lal Nehru while moving the motion for adoption of the new Atomic Energy Bill in the Parliament in 1962

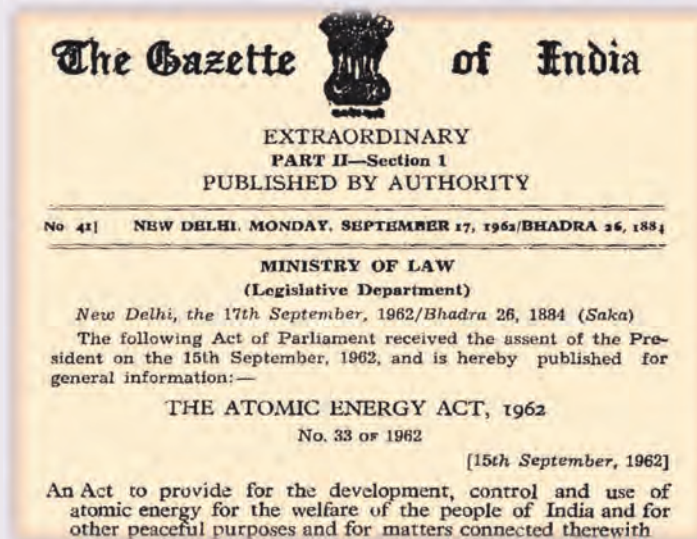
“The House may remember that the Bill relating to atomic energy was passed in 1948, fourteen years ago, Since then, a great many changes have occurred, a great many developments have taken place all over the world and that Act is somewhat out of date. It might have been possible to make amendments to it, but that was a cumbersome procedure with numerous petty amendments. It is, therefore, submitted to the House that we should put an end to the old Act and introduce a new Bill, which I am venturing to do now.”

SALIENT FEATURES OF ATOMIC ENERGY BILL 1962

- Atomic energy minerals, anything relating to them, should be under the **ownership of the Government** of India, more especially uranium.
- Recognise no patents in India in regard to atomic energy.
- Very effective safety measure have to be taken in dealing with the production of atomic energy anywhere
- Penalties for non-observance and breach of any of these rules have been made more heavy

Ref: Parliamentary Debates, 1962

ATOMIC ENERGY ACT, 1962



- development, control and use of atomic energy
- for the welfare of the people of India and
- for other peaceful purposes

Came into force: 21st September 1962
repealed AE Act, 1948

- The concept of **welfare State** is a facet of Article 38 of the Constitution of India. It is the obligation passed by the Constitution of the State to establish a welfare State.
- The words used in the Preamble of the 1962 Act are “welfare for the people” and “peace”.

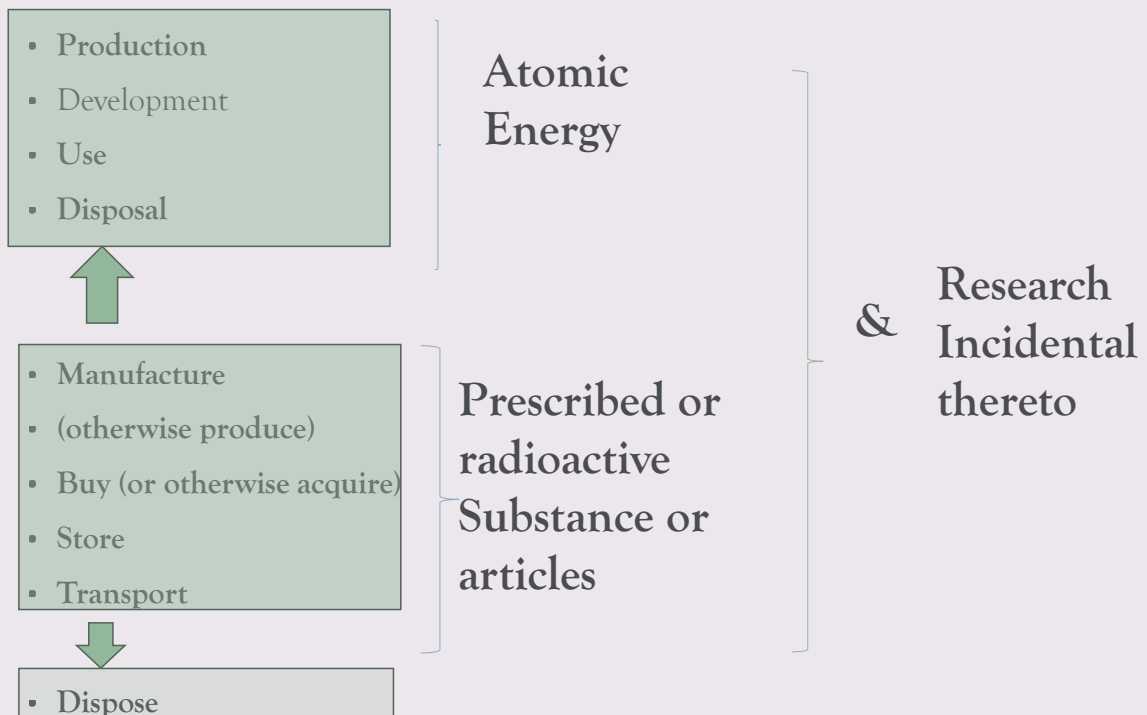
Two Latin Maxims

- The maxim *salus populi suprema lex* – regard for public welfare - is the highest law
- *The maxim salys republicae supreme lex*, i.e., safety of the State is the supreme law

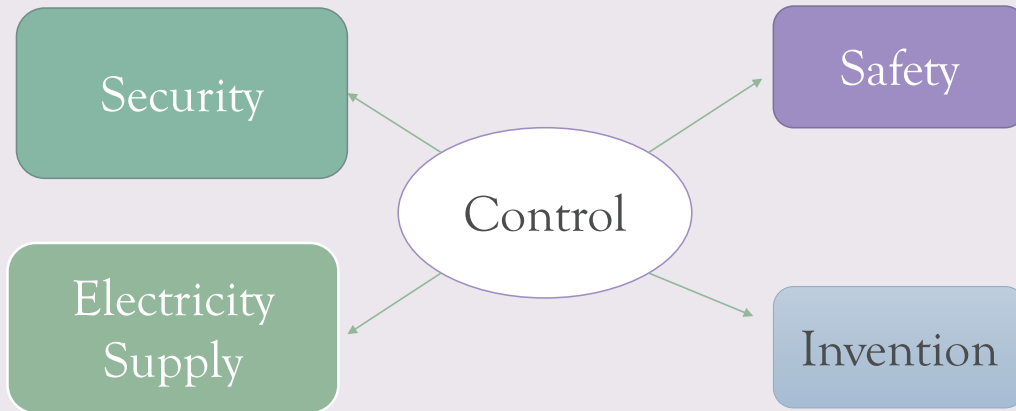
The term "welfare" covers both public safety and the welfare of citizens and considers both living generation (*in praesenti*) and generations to come (*in futuro*)

Ref: Hon’ble Supreme Court of India in Civil Appeal 4440 of 2013 (KKNPP-1&2 case)

CONTROL- WHAT?



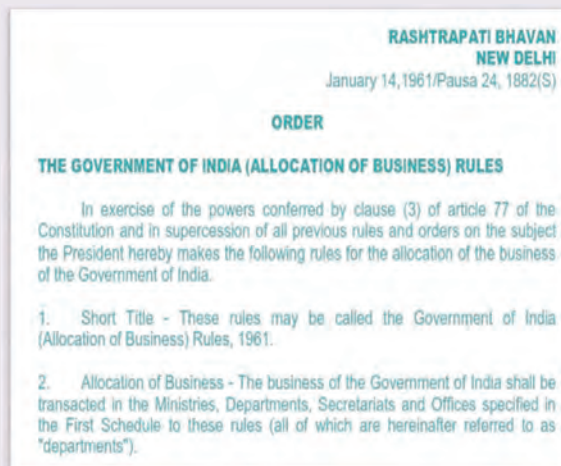
CONTROL- WHY?



ENTITY PERMITTED

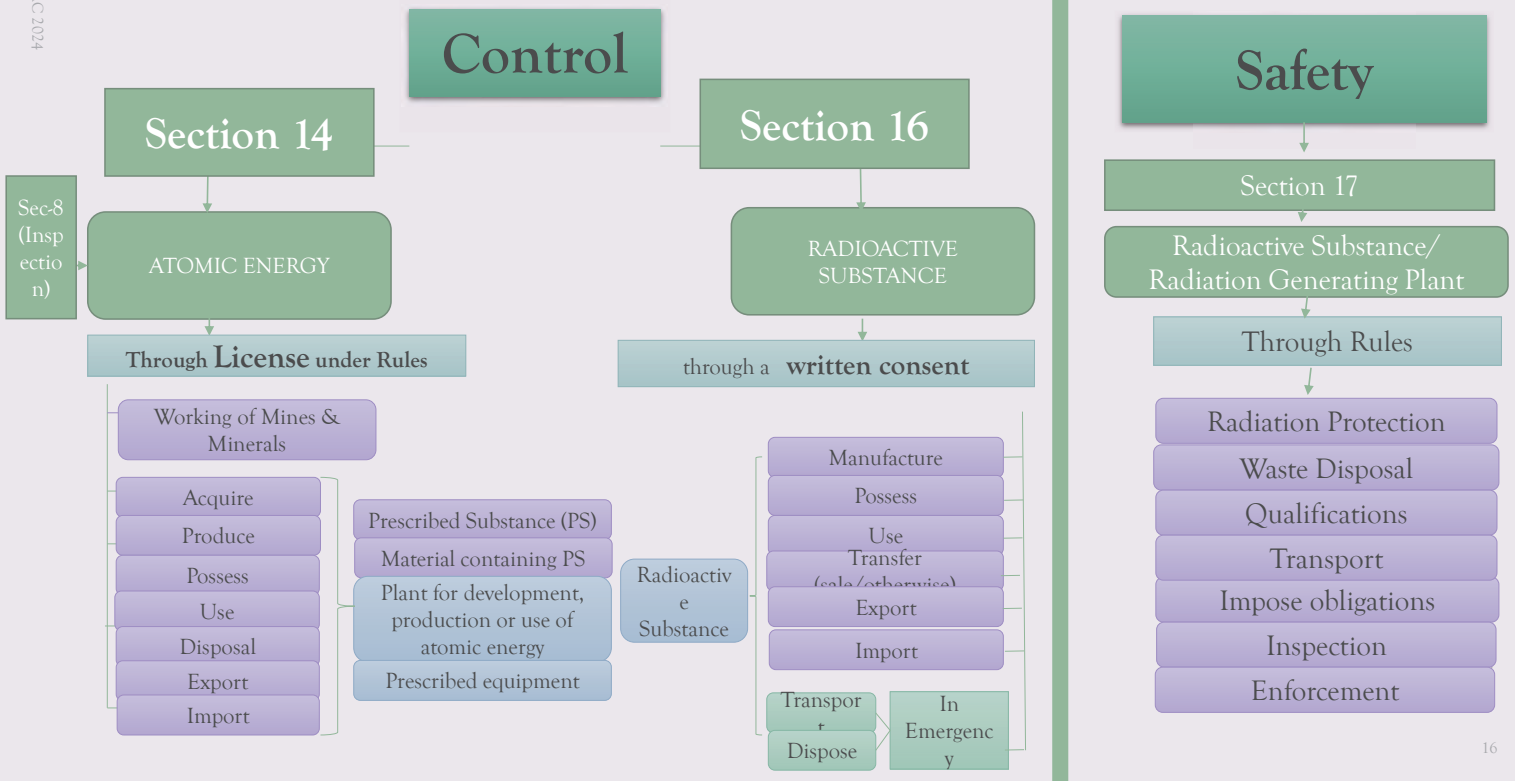
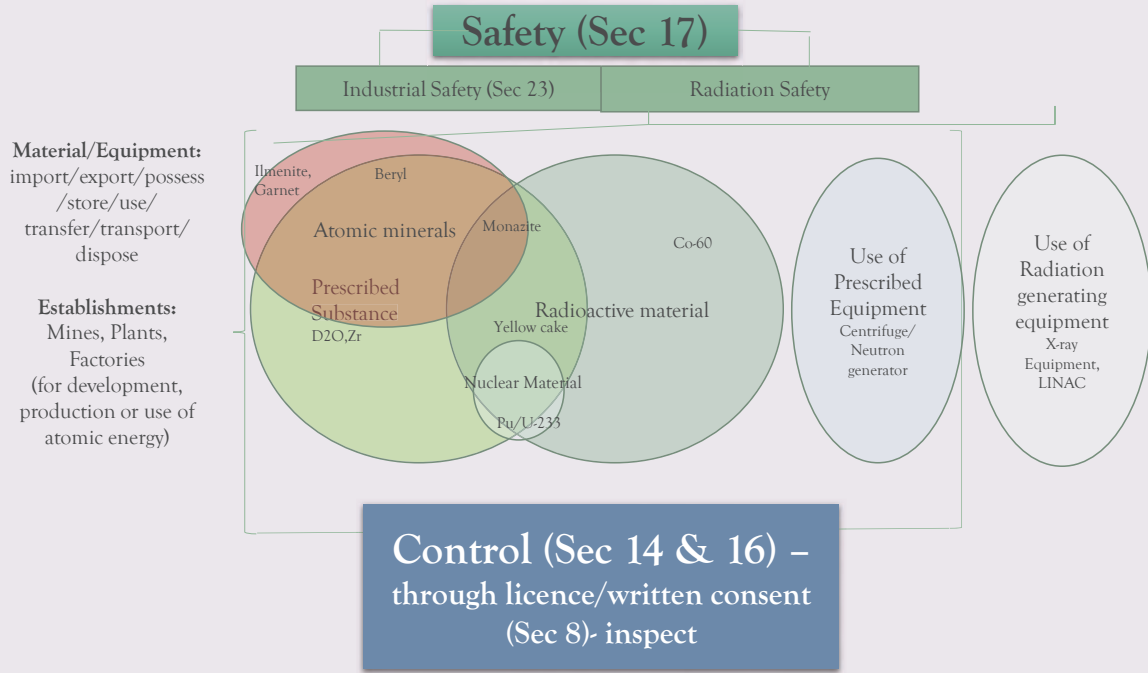
Section 3:

Either by Central Government itself or through any authority or corporation established by it

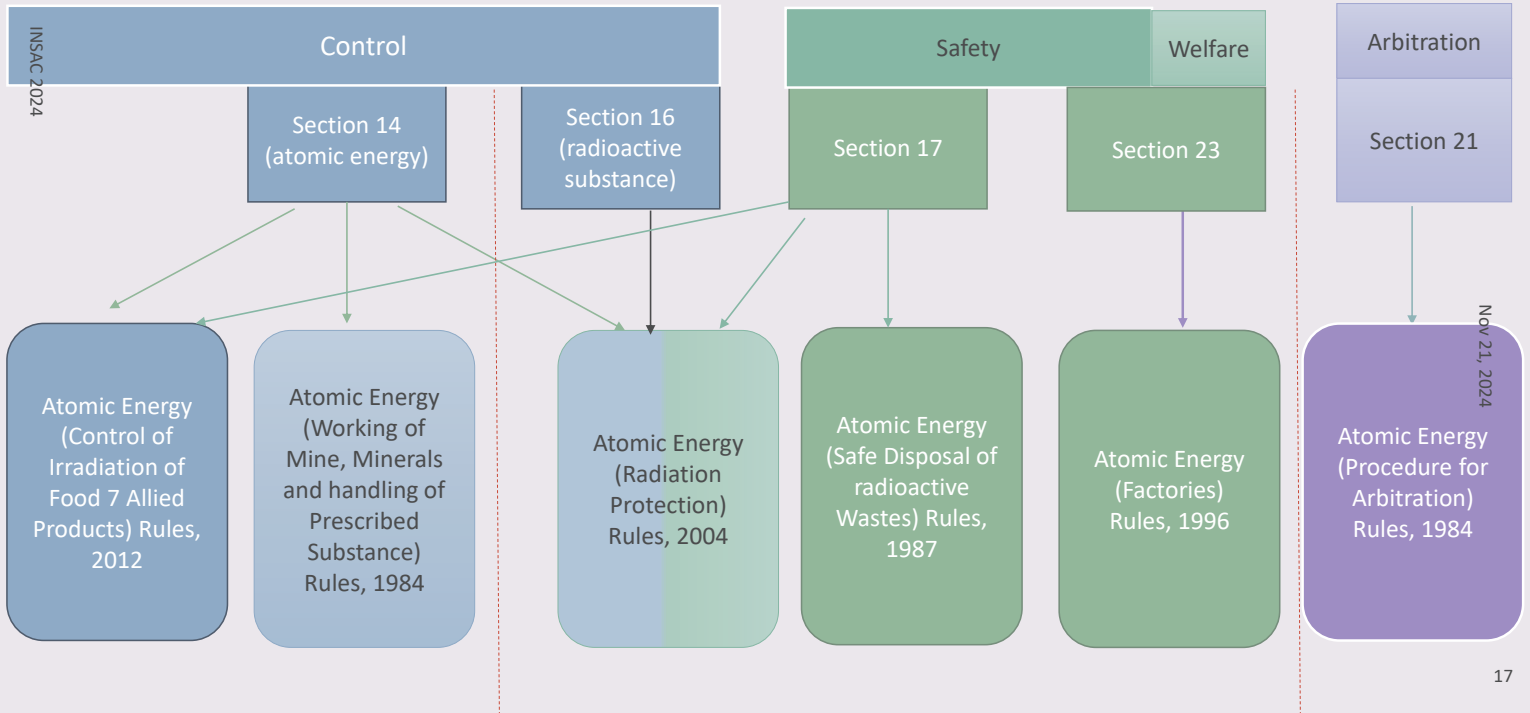


DAE responsible for all matters related to Administration of Atomic Energy Act, 1962

CONTROL-HOW? -LICENSING PROVISIONS



RULES MADE UNDER AE ACT, 1962



AMENDMENT BILL 1987

Introduced by Shri K. R. Narayanan, Hon'ble Minister of State

- The Atomic Energy Act, 1962 provides for the development control and use of atomic energy for the welfare of the people of India and for other peaceful purposes and matters connected therewith. Under the Act, only the Central Government has the power to produce and supply electricity from atomic energy
- Section-3 is being amended to enable a body other than the Central Government to take up the work of production, development and use of atomic energy including , the production and development of electricity from atomic energy. The powers to undertake research and development in atomic energy will still vest with the Government.

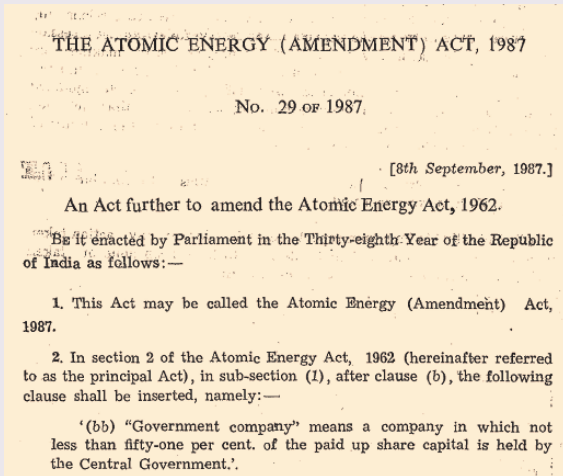
- Section 22 of the Act is being amended to allow such a body to fix tariffs on lines similar to that adopted by the purpose of generating electricity from nuclear energy, to implement schemes for the generation of electricity in pursuance of national policy and to operate atomic power stations in consultation with the State Electricity Boards, to enter into agreements regarding the supply of such electricity and to fix rates for and regulate the supply of electricity from atomic power stations
- Section 22(1) (b) of the Act is being amended to allow such a body to fix tariffs on lines similar to that adopted by the generating companies like NTPC
- Section 23 is being amended to extend the provisions of this Section to a body other than the Central Government set up for the purposes of generation of electricity from atomic energy.

REASON FOR AMENDMENTS

- The proposed amendments are purely of enabling nature, made with the intention of creating a wholly owned Government company for the purposes of speedy execution of the goal of 10,000 MW by 2000 A.D. It is proposed to call the Corporation the Nuclear Power Corporation of India Limited. It will be our endeavour to ensure that the new Corporation functions as a self-sufficient viable organisation.

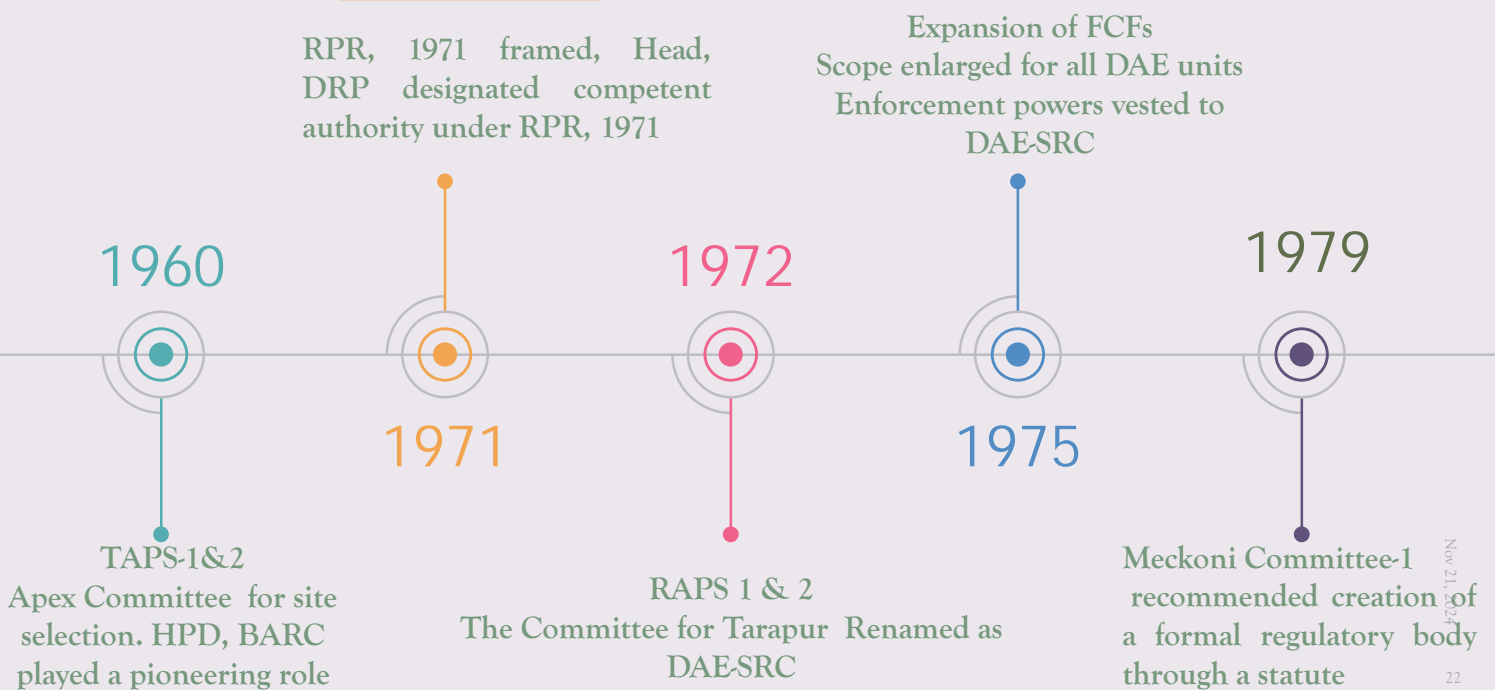
Ref: Parliamentary Debates, 1987

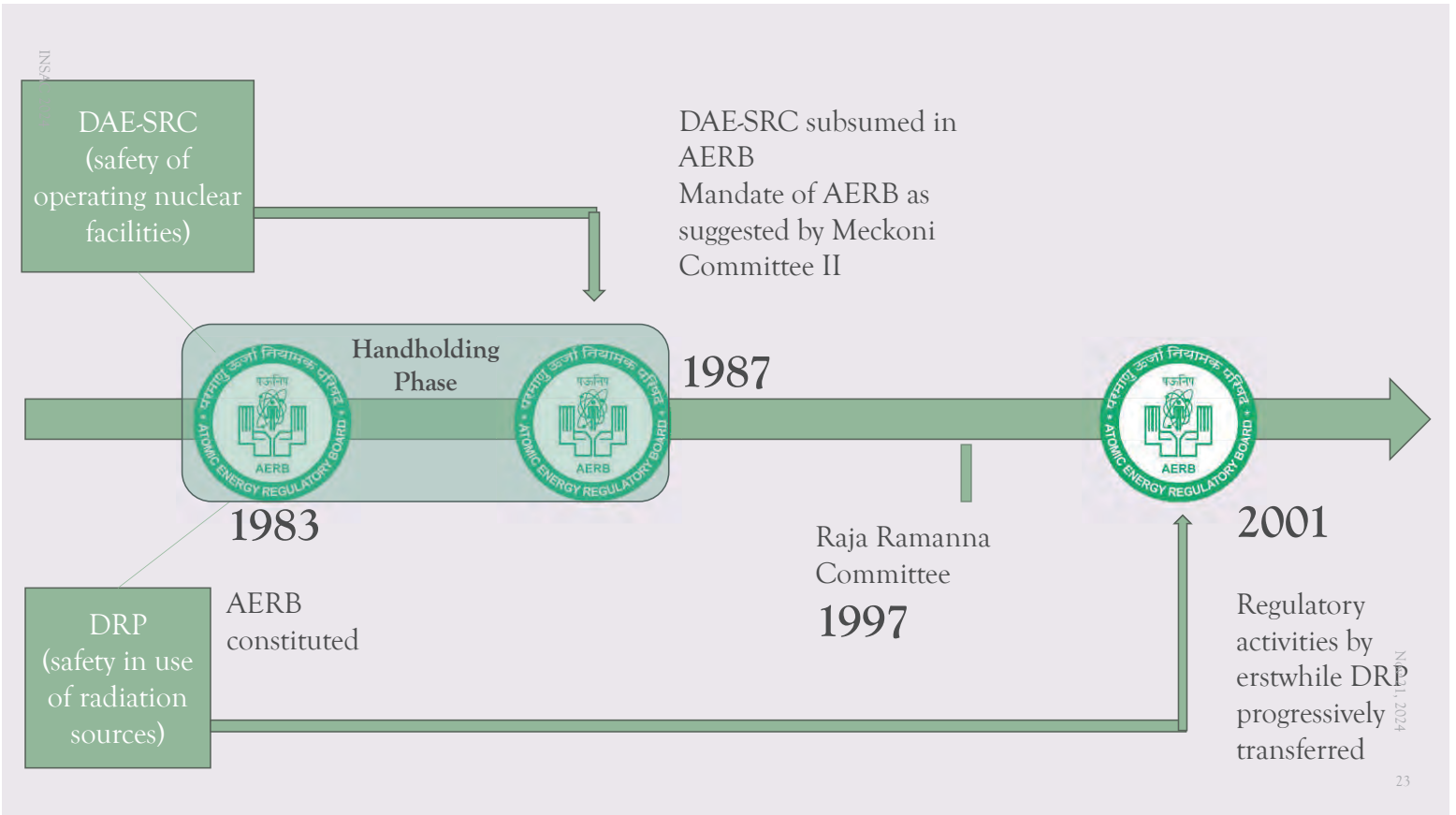
ATOMIC ENERGY (AMENDMENT) ACT 1987



- ‘Government Company’ means a means a company in which not less than fifty-one per cent. of the paid up share capital is held by the Central Government
- Consequential amendments made in Sec 3, 22, 23 to extend the provisions to Government Company

Consolidation of Governmental Framework for Safety





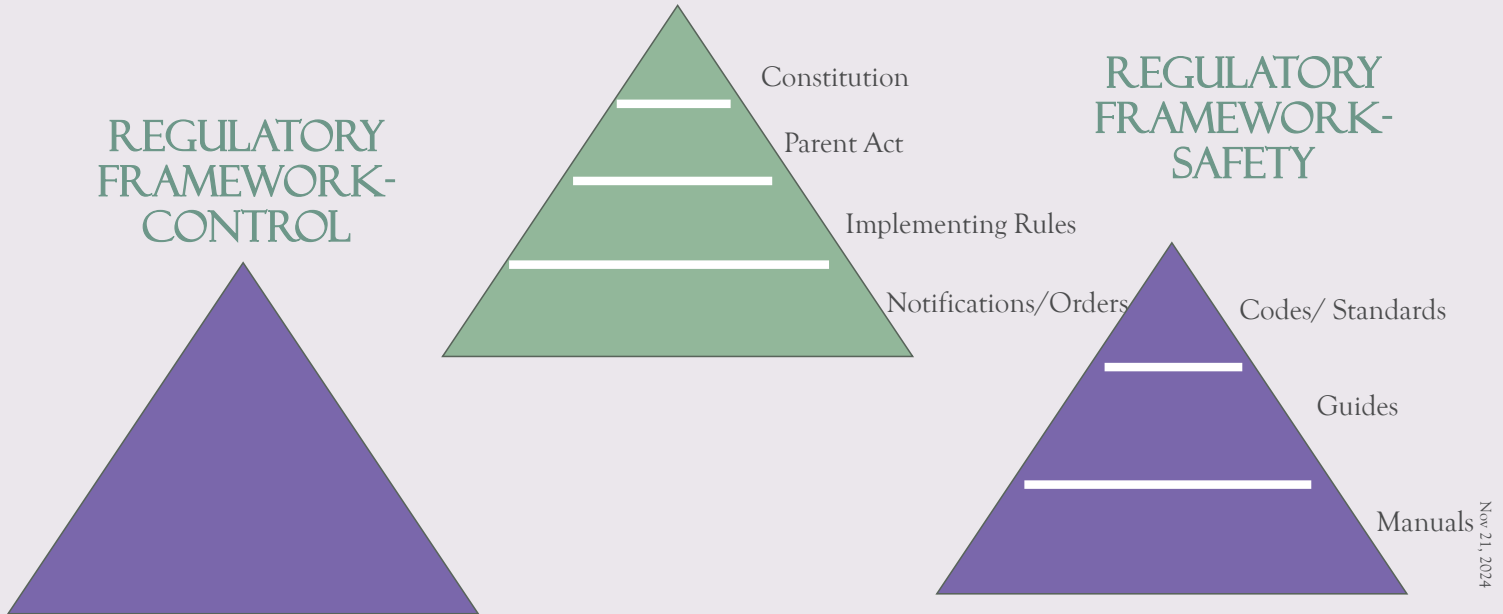
Nov 21, 2024

Existing Governmental Framework for Regulation

<p>Control of Nuclear Facilities and material</p> <p>Department of Atomic Energy <i>who (org. capabilities), where (siting) external security & safeguards</i></p>	<p>Safety of nuclear and radiation facilities and activities</p> <p style="text-align: center;">Atomic Energy Regulatory Board</p> <p><i>Regulation of radiation safety under The Atomic Energy Act, 1962 all across the country</i></p> <p><i>Administration of industrial safety under Factories Act-1948 (units of DAE)</i></p> <p><i>Regulation of nuclear security having bearing on safety within Main Plant Boundary of NPPs/security of radioactive sources</i></p> <p><i>Notification of Nuclear Incident-CLND Act 2010</i></p> <p style="color: blue;">[BARC facilities out of purview since 2000]</p>	<p>Environmental Protection</p> <p>Ministry of Environment, Forest & Climate Change <i>(EPA, 1986)</i></p>
<p>Control of Radiation applications</p> <p>Department of Atomic Energy <i>Ex-import of radioactive substance</i></p> <p>Other Line Ministries under relevant law <i>Ex- radiation generating equipment</i></p>		<p>Disaster Management</p> <p>National Disaster Management Authority <i>(DM Act, 2005)</i></p>

Nov

LEGAL FRAMEWORK



Regulatory Framework

Control

- Site Selection and in-principle approval of Site by Govt (for pre project activities)
- Project Approval (based on DPR)
- Financial & Administrative Sanction
- Licence for handling Prescribed substance (Nuclear Material)

Elements

- Resources & infrastructure (implicit)
- Security arrangements
- Safeguards arrangements

Safety

- Stage wise licensing and continuous regulatory oversight
 - selected site fulfills the safety requirements
 - permitted activity is carried out in a safe manner throughout the facility's lifetime (Training & Qualifications)

Elements

- Regulations based on sound scientific principles
- Concurrent development of regulation with technology:
- Regulatory approach developed based on licensee's maturity

AMENDMENT BILL 2015

The purpose of the present amendment is to provide an enabling legal basis for the Nuclear Power Corporation of India Ltd. to form a joint venture with other Government units and PSUs for nuclear power generation.

The need for this has arisen to meet the immediate requirement of equity infusion to augment country's nuclear power generation capacity.

Proposal to modify the definition of Government company in the Atomic Act of 1962 in order to,

- a) bring **joint ventures** with PSUs and other Government units under the definition of 'Government company' in the Atomic Energy Act mainly to have a joint venture, and
- b) to extend the **control of the Central Government** over such joint ventures in which otherwise the Central Government is not a direct shareholder and, therefore, may not be able to exercise direct control in the normal course

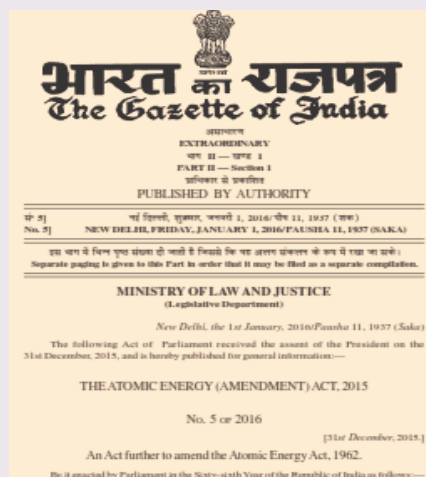
Government company would mean not less than 51 per cent of the paid-up share capital is held by the Central Government same as earlier or the whole of the paid-up share capital is held by one or more of the companies specified under the same Clause and which by its Articles of Association empowers the Central Government to constitute its Board of Directors.

Amendment consequent to Section 14 would enable the Central Government to licence the joint venture companies. It is because they also have to obtain the licence from the Government and we are not entering into any kind of a joint venture of a joint mechanism in the private company.

It also enables the Central Government to take measures for safe operation of these nuclear plants and ensure disposal of nuclear material in the event a company licensed under the Act ceases to be a Government company.

Ref: Parliamentary debars, 2015

ATOMIC ENERGY (AMENDMENT) ACT 2015



Government Company definition broadened to enable joint ventures with Government Company with control by Central Government

Consequential amendment in Section 14.

Came into force: 15th May 2023

JUDICIAL VIEWS ON AMENDMENT

In the recent court case filed in Hon'ble Supreme Court (W.P.(Civil) No.564 of 2024) in the matter of Sandeep T.S Vs Union of India, which challenges the ban on licence to private entities for nuclear energy, the Apex Court held that amendment of 2015 as per which licence can be issued only to a Government entity is

“ to serve a salutary public purpose..... The Parliamentary regime envisages a calibrated exploitation of atomic power , subject to stringent safeguards, bearing in mind the likely consequences of misuse , and for that matter, of an accident..”

P.S: Parliamentary Debates wrt CLND Bill 2010

“We have already signed an agreement with NTPC, a large public sector company, which is a 15 per cent privately held company and NPCIL. We will welcome any investment, but in a minority role and not in a majority role. We will not permit any private sector, whether Indian or foreign, to come and operate nuclear power energy.”-

-Statement by Shri Prithviraj Chavan, Hon'ble Minister of State ³¹

NEW ENTRANTS IN NUCLEAR SECTOR

- **Changes necessitated in the Legal Framework-**
 - Atomic Energy Act, 1962
 - Civil Liability for Nuclear Damage Act, 2010
- **Policy Considerations**
 - Fresh Fuel & Spent Fuel
 - Fuel Cycle Support
 - Waste Management arrangements
 - Decommissioning arrangements
 - Technical Services & Infrastructure
 - Factories Act administration

OWNER/OPERATOR ORGANIZATIONAL STRUCTURE

- **turnkey approach**- the owner/operator is responsible for overseeing the implementation of the contract signed with the vendor(Engg-Procurement-construction [EPC contractor]). The engineering and procurement of components and services, as well as the construction of the plant is the responsibility of the EPC contractor.
- **split package approach** -owner/operator is responsible for the engineering, procurement, construction and management of the overall project and plays role of architect-engineer
- **Build-own-operate approach**:host government grants the developer the right to finance, build, own and operate a facility for which it will keep the associated revenues and bear the associated risks
- **Separate Owner and Operating Organisation**- relationship defined by contract

Ref: IAEA Nuclear Energy Series No.NG-T-3.1(Rev.1)-

Initiating Nuclear Power Programmes: Responsibilities and Capabilities of Owners and Operators

REGULATORY FRAMEWORK

CONTROL-

- Explicit provisions for evaluation of organisational capabilities (technical and commercial competencies, resources, infrastructure, liability arrangements, interfaces, security and safeguards aspects, EPR arrangements, intelligent customer capabilities, etc) rejection criteria for license

Manthan Topics
flagged to DAE

SAFETY-

- Non-prescriptive, technology and entity neutral regulations, to the extent possible
- Requirements compatible to any business model - assessment of utility's management system -organisational set up with contractual arrangements, corporate safety & security policies, safety culture assessment, access to technical services
- Codification: 'Implied' to Expressed regulatory requirements
- Optimisation of regulatory processes (functioning & decision making)

Manthan Topics
Identification &
Implementation of
Actionable items
within AERB

TO SUM UP...

- So far the Legal and Regulatory Framework was developed right from the inception centred around Government's exclusive control over nuclear energy sector
- The amendments which have taken place over the time specially 1987 and 2015 also retained this basic premise
- For enabling new entrants, changes would be required in basic framework on which the conceptional ideas were built and evolved over the years.
- The changes need to be seen from a holistic, broader and much deeper perspective seamlessly integrating the body and soul of the legal and regulatory framework

THANK YOU