

Law Relating to Patenting of Atomic Energy in India

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Abstract

Energy is vital for the growth of any nation and atomic energy is an option to secure the energy supply. Atomic technology is constantly evolving. It is argued that the technological innovations which are taking place in this area must be protected. To overcome with the risk of the stiffly in the innovation and technological advances, it seems that there is need of reforms in the patent law relating to atomic energy. The Heading of Chapter II and Section 4 of the Patents Act, 1970 deal with "Inventions Non-Patentable" and "Inventions relating to atomic energy not patentable", respectively creates confusions. Section 65 of the Patents Act deals with the revocation of patent or amendment of complete specification on directions from Government in cases relating to atomic energy. To provide the development, control and use of atomic energy for the welfare of the people of India and for other peaceful purposes the Atomic Energy Act was enacted in the year 1962. Section 20 of the Atomic Act deals with the provision relating to inventions, and under the provision no patents shall be granted for inventions which in the opinion of the Central Government are useful for or relating to the safety in atomic energy operations. Although atomic energy is dangerous, much research and development is required in this field because of its economic and environmental benefits. In India, within its legal framework, how to promote invention relating to atomic energy is an issue before all the stakeholders.

Keywords: Energy, atomic energy, patent law, atomic energy law

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INTRODUCTION

The key to self-sufficiency in the energy sector depends not only on the resources, but also on the development of the technologies in their respective field. It is well known that technology innovation is a primary basis for long-term economic growth. Since atomic technology is constantly evolving, it is argued that the technological innovations which are taking place in these areas must be protected. To overcome with the risk of the stiffly in the innovation and technological advances, it seems that there is need of reforms in the patent law relating to atomic energy. In India, within its legal framework, how to promote invention relating to atomic energy is an issue before the government. It is hypothesized that to facilitate the entry of the private sector, an amendment is required under the Atomic Energy Act, 1962 (hereinafter referred as 'the Atomic Act').

This paper seeks to analyze the patent law relating to atomic energy. For the sake of convenience, this paper has been divided into

three parts. Next part deals with the law relating to atomic energy under the Patents law. Subsequent part deals with the law relating to patents under the Atomic Energy Law. Last part concludes.

LAW RELATING TO ATOMIC ENERGY UNDER THE PATENTS ACT

Patent is granted for providing a new solution to many challenges the world is or will be facing. This applies also to nuclear energy and it should seek to keep pace with technological developments and scientific and engineering advances [1]. The selection of the subject matter to be included within or excluded from the fields in which patents will be granted is merely an expression of the contemporary public policy, and expectedly varies with the times and local political attitudes [2].

Provisions under the Patents Act

The heading of Section 4 of the Patents Act (hereinafter referred as 'the Act') says that

invention relating to atomic energy is not patentable. It provides as under:

No patent shall be granted in respect of an invention relating to atomic energy falling within sub-section (1) of Section 20 of the Atomic Energy Act, 1962 (33 of 1962).

The heading of the Section 4 of the Act also creates certain problems. Under the provisions of Section 4 patent protection in respect of any aspect; however, remotely related to atomic energy, nuclear activity or a radioactive material is not available [3].

Under Section 39 of the Act, the residents of India shall not to apply for patents outside India without prior permission [4]. The restriction; however, is limited only to a person resident in India and not to a person resident outside India [5]. Section 65 deals with the revocation of patent or amendment of complete specification on directions from Government in cases relating to atomic energy [6].

Section 65 of the Patents Act deals with the revocation of patent or amendment of complete specification on directions from Government in cases relating to atomic energy.

The demand for compulsory license legislation has its roots in a popular belief that desirable patents are “shelved” by the large corporations [7].

Relevant Judicial Decisions on Patenting of Atomic Energy

In *Rayteon Company v. The Controller of Patents and Designs* [8] the invention concerns an imaging system suitable for radiation use. The application was referred by the Deputy Controller of Patents and Designs to the matter to the Central Government. The Central Government has expressed an opinion that the invention which was the subject-matter of the application related to an invention which was useful for or related to the production of, control, use or disposal, of atomic energy and therefore, patent could not be granted. The court observed as under whether the opinion of the Central Government under Section 20(1) of the Atomic Energy Act was properly formed or

not cannot, in my opinion, be the subject-matter of a collateral challenge in an appeal under the Patents Act, 1970. So long as the direction under sub-section (6) stands, so far as the Controller of Patents and Designs is concerned he is bound to follow it and so far as the validity of that direction is concerned that is beyond challenge in an appeal under the Patents Act and more so especially in view of the specific provision of sub-section (1) of Section 116 of the Patents Act, 1970. If the appellant is aggrieved by such direction or opinion or communication of the Central Government, it is for the appellant to take such steps as he is entitled by law to challenge the propriety or the validity of the opinion or direction of the Central Government but this does not come within the purview of an appeal under the Patents Act, 1970.

On the contention that the Deputy Controller of Patents and Designs was in error in referring the matter to the Central Government for its opinion without giving the appellant an opportunity of being heard, the court concluded that if the appellant is aggrieved by such direction or opinion or communication of the Central Government it is for the appellant to take such steps as he is entitled by law to challenge the propriety or the validity of the opinion or direction of the Central Government but this does not come within the purview of an appeal under the Patents Act. The Court observed as under:

If there has been an opinion expressed by the Central Government this point is no longer open because whether the reference was bad or properly or improperly made if there has been any direction given by the Central Government so far as the Deputy Controller of Patents and Designs is concerned he is concluded by the said opinion or direction.

It is pertinent to note that the Indian courts are innovative and are not averse to laying down certain norms that could develop the existing regime [9].

Grant of Patent Relating to Atomic Energy

A survey of the Annual Reports of office of the Controller General of Patents, Designs and Trade Marks and Registrar of Geographical Indication reveals that there is gradually

increment in the grant of patent relating to atomic energy [10].

Year	Referred to DAE	Cleared	Pending	Refused
2002-03	29	14	15	--
2003-04	02	--	--	02
2004-05	41	--	--	06
2005-06	11	--	02	09
2006-07	18	14	03	01
2007-08	20	14	06	--
2008-09	30	02	21	07
2009-10	28	14	10	04
2010-11	30	18	11	01
2011-12				
2012-13	78	42	29	07

LAW RELATING PATENTS UNDER THE ATOMIC ENERGY ACT

'Atom' is a Greek word which means 'indivisible' [11]. Nuclear energy is the energy in the nucleus, core of an atom. Atoms make up everything in the universe and are held together with force [12]. There are certain advantages of atomic energy, one of the nuclear energy is that it is a cleaner way to produce electricity than burning gas or fossil fuels; secondly, no pollutants are released into atmosphere by a nuclear plant; thirdly, a small amount of fuel can produce a huge amount of energy; fourthly, very little waste is produced and finally, atomic power is also very reliable [13]. The need of electricity in India is enormous, and its energy consumption doubled between 1990 and 2011. Thermal, hydroelectric, and renewable sources meet some of its needs, but nuclear power is an increasingly important source of electricity in the country [14]. Among the recognized positive effects, nuclear energy has a high local community social and economic benefit, as this kind of industry creates many primary and secondary jobs in the areas where they are implemented. Also, it gives a high security in base load electricity supply at a stable low cost.

India has low reserves of uranium and large reserves of thorium. The question before the scientific community is that whether thorium emerges as a viable fuel option for India or not. For this purpose, there is need of an immense research and development in this

area. To provide the development, control and use of *atomic energy* for the welfare of the people of India and for other peaceful purposes, the Atomic Energy Act (hereinafter referred as 'the Atomic Act') was enacted in the year 1962. 'Atomic energy' was not defined under the Act; it is defined under the Atomic Act. Under the provisions of Section 2 (1) (a) of the Atomic Act, it defines as under: "atomic energy" means energy released from atomic nuclei as a result of any process, including the fission and fusion processes.

The Atomic Act vests complete authority with the Central Government. By virtue of Section 3(a) of the Atomic Act, only Central Government has the power to produce, develop, use and dispose off atomic energy either by itself or through any authority or Corporation established by it or a Government company and carry out research into any matters connected therewith. On the other hand, the US Atomic Energy Act of 1954 allows limited private participation subject to stringent licensing mechanism and monitoring by competent authorities [15].

Section 20 of the Atomic Act deals with the provision relating to inventions, and under the provision no patents shall be granted for inventions which in the opinion of the Central Government are useful for or relating to the safety in atomic energy operations [16]. Under sub-section (1) the Central Government may prohibit granting of any patent for inventions which it considers useful for or relate to the production, control, use or disposal of atomic energy or the prospecting, mining, extraction, production, physical and chemical treatment, fabrication, enrichment, canning or use of any prescribed substance or radioactive substance or the ensuring of safety in atomic energy operations. Sub-section (4) deals with person, who has made an invention which he has reason to believe relates to atomic energy, shall communicate to the Central Government the nature and description of the invention. Under sub-section (5) if any invention has to be patented abroad, prior permission is required before making such application. This provision would raise a bar in cases of PCT applications for inventions pertaining to atomic energy covered by this section and

designating India as one of the countries [17]. Most importantly, by the virtue of Section 20(6), the Controller of Patents and Designs must refer any application relating to atomic energy to the Central Government whose decision in this regard shall be final [18]. But other than Section 20(1), the invention shall be recognized because they are useful for human being and society in large [19].

Indian private companies are willing to participate in nuclear power generation and have sought an early modification to the Atomic Energy Act, 1962 to facilitate the entry of the private sector [20]. Since the patent system has been regarded as a tool of legal openness in which the inventor is granted a temporary monopoly on the production of an invention in return for disclosing how it works. It is worth noting that the inventions relating to atomic energy have been excluded from the scope of patentability for national security reasons [21]. Even in the United States no technology in the twentieth century has been as intertwined with the policies of secrecy as nuclear weapons and these weapons have always been manufactured by government monopoly [22].

The provisions of Section 20 contain matters under which inventions relating to atomic energy will be ceased to be patentable in India. This is necessary as the central government which has assumed the sole responsibility for the development of atomic energy in the country, should for obvious reasons be free to develop its programme without being hampered by patent rights in respect of the inventions which involve the use of atomic energy [23]. Article 73 of Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) [24] permits exclusions on grounds of protecting national security and developing countries excluding certain inventions relating to substances obtained by means of nuclear transformation [25]. The Atomic Act has a derogatory provision which states that notwithstanding anything contained in the Patents Act, the decision of the Central Government on pointed connected with or arising out of Section 20 shall be final [26].

Top scientist of India in the field of atomic energy, Anil Kakodar gave an example of a

plumping valve that could have helped filter radioactivity and better protect people in their water supplies. When he thought of getting the value from the market they had been told that it had been built under technology licence from a foreign manufacturer and could not be used for the nuclear industry [27].

CONCLUSIONS

Nuclear technology has considerable potential for innovations. Innovation has been a driving force for the success of nuclear energy and remains essential today for its sustainable future. Innovation and innovative Research & Development needs broad support involving all stakeholders, i.e., researchers, developers and potential users – to be successful. Industry involvement; however, is generally coupled to commercial opportunities and constraints. Although atomic energy is dangerous, much research and development is required in this field, because of its economic and environmental benefits. There is a need of a rapid and accelerated development of nuclear energy in the country, which requires large capital infusion calls for entry of private capital in the field.

REFERENCES

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3. *Patent News*, *Intellect. Prop. Rights*, 222, 223 (JULY 1997).
4. Section 39 of the Act provides as under:
 - (1) No person resident in India shall, except under the authority of a written permit sought in the manner prescribed and granted by or on behalf of the Controller, make or cause to be made any application outside India for the grant of a patent for an invention unless–
 - (a) an application for a patent for the same invention has been made in India, not less than six weeks before the application outside India; and
 - (b) either no direction has been given under sub-section (1) of section 35 in relation to

- the application in India, or all such directions have been revoked.
- (2) The Controller shall dispose of every such application within such period as may be prescribed:
 - (a) Provided that if the invention is relevant for defence purpose or atomic energy, the Controller shall not grant permit without the prior consent of the Central Government.
 - (3) This section shall not apply in relation to an invention for which an application for protection has first been filed in a country outside India by a person resident outside by a person resident outside.
 5. Gopakumar G. Nair, *Additional Features of New Patent Ordinance*, January 19, 2005. Available at: <http://www.gnaipr.com/Articles/Additional%20Features%20of%20New%20Patent%20Ordinance.pdf>. Last visited on 10th December 2017.
 6. Section 65 provides as under:
 - (1) Where at any time after grant of a patent, the Central Government is satisfied that a patent is for an invention relating to atomic energy for which no patent can be granted under sub-section (1) of section 20 of the Atomic Energy Act, 1962, it may direct the Controller to revoke the patent, and thereupon the Controller, after giving, to the patentee and every other person whose name has been entered in the register as having an interest in the patent, and after giving them an opportunity of being heard, may revoke the patent.
 - (2) In any proceedings under sub-section (1), the Controller may allow the patentee to amend the complete specification in such manner as he considers necessary instead of revoking the patent.
 7. Samuel Weisman, *Compulsory License and the Atomic Bomb* 28(1) J. Pat. Off. Soc'y 63, 64 (1946). Available at: <http://heinonline.org/HOL>. Last visited on 10th December 2017.
 8. AIR 1974 Cal 336(SB), High Court of Calcutta; Justice Sabyasachi Mukharji delivered the judgment.
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 10. The respective years Annual Reports of office of the Controller General of Patents, Designs and Trade Marks and Registrar of Geographical Indication are available at: http://ipindia.gov.in/cgpdmt/AnnualReport_English.pdf. Last visited on 10th December 2017.
 11. Tell Me Why Wonders of Nuclear Energy, 8(4) Manorama 5 (April 2014).
 12. Id. at 6.
 13. Id., at 68.
 14. Id., at 83.
 15. Supra 8, at 47.
 16. Section 20 of Atomic Act provides as under:
 - (1) As from the commencement of this Act, no patents shall be granted for inventions which in the opinion of the Central Government are useful for or relate to the production, control, use or disposal of atomic energy or the prospecting, mining, extraction, production, physical and chemical treatment, fabrication, enrichment, canning or use of any prescribed substance or radioactive substance or the ensuring of safety in atomic energy operations.
 - (2) The prohibition under sub-section (1) shall also apply to any invention of the nature specified in that sub-section in respect of which an application for the grant of a patent has been made to the Controller of Patents and Designs appointed under the Indian Patents and Designs Act, 1911, before the commencement of this Act and is pending with him at such commencement.
 - (3) The Central Government shall have the power to inspect at any time any pending patent application and specification before its acceptance and if it considers that the invention relates to atomic energy, to issue directions to the Controller of Patents and Designs to refuse the application on that ground.
 - (4) Any person, who has made an invention which he has reason to believe relates to atomic energy, shall communicate to the Central Government the nature and description of the invention.
 - (5) Any person desiring to apply for a patent abroad for an invention relating to or which he has reason to believe relates to atomic energy shall obtain prior permission from the Central Government before making the application abroad or communicating the invention to any

person abroad, unless three months have elapsed since his request for permission was made to the Central Government and no reply was received by him.

section (1) the Central Government may prohibit granting of any patent for inventions which it considers useful for or relate to the production, production, control, use or disposal of atomic energy or the prospecting, mining, extraction, production, physical and chemical treatment, fabrication, enrichment, canning or use of any prescribed substance or radioactive substance or the ensuring of safety in atomic energy operations. Sub Section (4) deals with person, who has made an invention which he has reason to believe relates to atomic energy, shall communicate to the Central Government the nature and description of the invention. Under sub-section (5) if any invention has to be patented abroad, prior permission is required before making such application. This provision would raise a bar in cases of PCT applications for inventions pertaining to atomic energy covered by this section and designating India as one of the countries.¹ Most importantly, by the virtue of Section 20(6) the Controller of Patents and Designs must refer any application relating to atomic energy to the Central Government whose decision in this regard shall be

- (6) The Controller of Patents and Designs shall have the power to refer any application to the Central Government for direction as to whether the invention is one relating to atomic energy and the direction given by the Central Government shall be final.
- (7) Any invention in the field of atomic energy conceived whether in establishments controlled by the Central Government or under any contract, sub-contract, arrangement or other relationship with the Central Government shall be deemed to have been made or conceived by the Central Government, irrespective of whether such contract, sub-contract, arrangement or other relationship involves financial participation of or assistance from the Central Government.
- (8) Notwithstanding anything contained in the Indian Patents and Designs Act, 1911, the

decision of the Central Government on points connected with or arising out of this section shall be final.

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18. *See also, Halsbury's Laws of India*, Vol. 21, Fuel and Energy I (Atomic Energy) 69 (New Delhi: LexisNexis, 2004).
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23. Avinash Shivande, *Intellectual Property Manual* 263 (New Delhi: LexisNexis, 2004).
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