

High Court of Judicature at Madras

Case NoS : W.P. NOS. 24770 & 22771 OF 2011, 8262 & 13987 OF 2012 & W.P.(MD) NOS.14054 & 14172 OF 2011, 1823 & 2485 OF 2012 & CONNECTED MISCELLANEOUS PETITIONS W.P.NO. 24770 OF 2011. **Reported in 2012 (6) MLJ 529 : CDJ 2012 MHC 4182**

Corum: THE HONOURABLE MR. JUSTICE P. JYOTHIMANI & THE HONOURABLE MR. JUSTICE M. DURAISWAMY

G. Sundarrajan Versus The Union of India rep. by the Secretary to Government of India
Department of Atomic Energy, Mumbai & Others

Judgment :-

COMMON ORDER

P. JYOTHIMANI,J.

The issue involved in all these cases relates to the commissioning of Units 1 and 2 of Kudankulam Nuclear Power Project (for brevity, "KNPP"). Even though the prayers in these writ petitions are different, they are taken up together, since the issue is one and the same.

W.P.No.24770 of 2011

2.1. This writ petition is a public interest litigation. The petitioner, who is an Engineering Graduate in Electronics and Instrumentation, claims to be a trustee of a public trust called "Poovulagin Nanbargal", which is connected with environmental and other issues. After coming to know from the newspapers that the Government of India, represented by the Department of Atomic Energy will commission the KKNPP by November, 2011, he has filed the said writ petition for a direction against respondents 1 and 3 to undertake a fresh and transparent review of KKNPP at Kudankulam, Tirunelveli District, Tamil Nadu by an independent body of experts, including those of the Department of Atomic Energy of the Union of India, by holding public hearings in accordance with law and till such time not to commission the project and also not to commission the same without fresh Environment Impact Assessment and Coastal Regulation Zone clearance.

2.2. Subsequently, the petitioner has impleaded Fisherman Care, a registered association as

fourth respondent in the writ petition and this Court suo motu impleaded the District Collector, Tirunelveli District and the Superintendent of Police, Tirunelveli District as respondents 5 and 6 respectively.

2.3. As it is seen in the affidavit filed by the petitioner, there was an Inter-Governmental Agreement between the Union of India and the U.S.S.R. signed in November, 1988 and a Supplemental Agreement was signed in May, 1998. As per the terms of the said agreement, a project report was prepared for the establishment of a Nuclear Power Plant at Kudankulam, Tirunelveli District. According to the petitioner, the conduct of Union of India in not obtaining a fresh environmental clearance when supplemental agreement was entered into in 1998 on the ground that clearance obtained in the year 1989, namely the date of original agreement, itself is sufficient, is not proper.

2.4. It is his further case that the contents of the Inter-Governmental Agreement were never made transparent for the public and there was no public discussion about the necessity of a supplemental agreement after a lapse of ten years from the date of original agreement. That apart, no public hearing was afforded informing the public about the changes made by the supplemental agreement to the original Inter-Governmental agreement, and the environmental clearance obtained in the year 1989 is not sufficient when a supplemental agreement was made in the year 1998.

2.5. It is also his case that even in the environmental clearance obtained on 9.5.1989 it was emphasized that the area in which the project is to be commenced has been declared as a bio-sphere reserved and, therefore, special precautions should be taken to avoid damages to the coral reefs or changes in the water quality near the shore and that all the vacant lands within the project zone should be afforested with a tree density of 1000 per Acre and that type of tree species must be selected.

2.6. It is stated that a Comprehensive Environmental Impact Assessment of Nuclear Power Plant (Units I and II) in Kudankulam under the sponsorship of Nuclear Power Corporation of India Limited, Mumbai (for brevity, "NPCIL") was submitted by the National Environmental Engineering Research Institute (for brevity "NEERI") in January, 2003. The petitioner relies upon paragraph 4.3 of the said report which states about thermal pollution due to discharge of heated waters and emphasizes that the resultant rise in the temperature of marine water should not go beyond 7oC and that is also one of the requirements of the State Pollution Control Board and the Ministry of Environment and Forests.

2.7. He also relies upon paragraph 4.5 of the report which states that the discharge of the

radioactive liquid wastes of the nuclear power plant into the water has to be adequately treated and if not, it would affect the bio-diversity of flora and fauna in the Gulf of Mannar. It is stated that the assessment has highlighted the importance of fulfilling the conditions of environmental clearance in respect of the project. According to the petitioner, the Ministry of Environment and Forests has given a direction to the NPCIL to strictly comply with the conditions regarding the environmental clearance given on 9.5.1989 till the completion of installation of the power plant. It is stated that while on the one hand the Union of India is taking steps to commission the plant in November, 2011, on the other hand, it has not complied with the conditions imposed by the Ministry of Environment and Forests regarding water environment and biological environment.

2.8. It is the case of the petitioner that as per one of the clauses of the clearance given by the State of Tamil Nadu for installation of Nuclear Power Plant, the unit shall not discharge treated effluent into the sea till it devises a proper outfall after detailed study by Ocean Engineering Department; IIT, Madras; Bhabha Atomic Research Centre, Bombay; National Physical Oceanographic Laboratory, Cochin, and satisfies the standards prescribed by the Tamil Nadu Pollution Control Board (TNPCB), and such study has not been done by respondents 1 to 3 on a reference to the Comprehensive Environmental Impact Assessment.

2.9. The petitioner stated about the nuclear disaster that took place in Fukushima Nuclear Plant, Japan on 11.3.2011 resulting in radioactive contamination, which was unable to be controlled by the Japanese Government till July, 2011. It is stated that farming was abandoned within 12 Miles of the plant and as per the experts, it would take minimum twenty years before the residents could safely return to this area. Due to the said nuclear disaster, the Government of India has constituted a Task Force comprising a Convener, four members and one invitee to review the capability of KKNPP to withstand and mitigate the extreme natural phenomenon and vide the interim report submitted by the Task Force on Safety Evaluation of the Systems of KKNPP post Fukushima event, certain recommendations were made to cope up with unanticipated and rare severe and multiple natural events stated to be of very low probability. The report also states that the engineering details of these additional measures are being worked out and the terms of implementation will be submitted along with the engineering details by end August, 2011 and, according to the petitioner, such final report has not been submitted and in spite of it, the Union of India is proceeding to commission the plant.

2.10. He would also state that Kudankulam reactors are Russian made reactors and the nuclear safety experts from Russia have pointed out 31 serious flaws like absence of regulations for personnel to know how to deal with large-scale natural disasters or other major contingencies, inadequate protective shelters for workers in the event of an accident, etc., and the said report was not considered by the Task Force. That apart, the Task Force has not found a way for

storing the nuclear waste which is hazardous for thousands of years.

2.11. In the absence of the final report from the Task Force, the said writ petition has been filed on the grounds that the Atomic Energy Regulatory Board (AERB) constituted under Section 27 of the Atomic Energy Act, 1962 is empowered to review from the safety angle before the commissioning of the Atomic Energy Project and it is only after appropriate review made by the third respondent regarding the operational experience in the light of the radiological and other safety criteria recommended by the International Commission on Radiological Protection and International Atomic Energy Agency, the commissioning of the project can take place.

2.12. According to the petitioner, the acts of respondents 1 to 3 are not transparent and there is a every possibility of occurrence of disaster as in Fukushima if no proper steps as required under law are taken and the recommendations of the expert body are not considered before commissioning of the project. He would state that without following the above steps, respondents 1 to 3 are hurriedly proceeding to commission the plant, which would affect the rights of the citizens under Articles 14 and 21 of the Constitution of India.

M.P.No.1 of 2012 in W.P.No.24770 of 2011:

3.1. In the above said writ petition, one S.Balamurugan, General Secretary, representing the People's Union of Civil Liberties (Tamil Nadu and Puducherry), Chennai 600 001 (for brevity "PUCL") has filed M.P.No.1 of 2012 to implead himself as a party, which, of course, was vehemently opposed by the above said writ petitioner on the ground that the plea raised by the proposed party are totally different from the prayer in the writ petition; that the proposed party has not even produced any document to show that he has been authorised by the PUCL to file such petition; and that the counsel who has entered appearance on behalf of the proposed party is the office bearer of PUCL. Thereafter, the authorization of PUCL was produced before this Court and it was also informed that the Mrs.D.Nagasaila, learned counsel has relinquished her post in the PUCL.

3.2. In the affidavit, the proposed party has chosen to state that it is a public spirited body and it has valuable documents and information which will be necessary for assisting the Court in this public interest litigation. It is stated that the mandatory requirement of conducting Emergency Drill Exercise before loading the fuel stated to have been conducted in Nakkaneri Village was sham and it was only a farce.

3.3. According to the proposed party, the KKNPP along with its desalination plant is likely to affect severely the livelihood, health and safety of the people residing in and around the plant

and the construction of Plants I and II have already caused significant damage to agriculture in surrounding villages of Iddinthikarai, Kudankulam and other villages and there was an outcry against the project.

3.4. It is stated that from the beginning the KKNPP has been fraught with illegalities and the entire project has been done secretly. Therefore, in effect, the proposed party opposes the very installation of the KKNPP. The alleged illegalities have been stated in the affidavit on the basis of:

i. Post facto Environment Impact Assessment (EIA), which is the systematic identification and evaluation of the potential impacts of the proposed project to the physical, chemical, biological, cultural and socio-economic components of the total environment. EIA is an integral component of sound decision making and, therefore, any environmental clearance given without EIA is arbitrary. According to the understanding of the said proposed party, the Department of Atomic Energy has set up a Site Selection Committee in 1988, which has made an evaluation in the form of a Site Evaluation Report (SER) to the Atomic Energy Regulatory Board (AERB) and as per the report, only two Nuclear Power Plants are to come up; and Spent Fuel will be temporarily stored and shipped to Soviet Union, and it was based on the said conditions the Atomic Energy Regulatory Board (AERB) has accorded the site clearance on 10.11.1989 for setting up 2 x 1000 MWe VVERs. The clearance itself was subject to 23 conditions, which includes the studies relating to thermal pollution; steps to prevent increase in population in Iddinthikarai and Kudankulam Villages which are within the sterilized zones; facility to store at site adequate quantities of water should be provided to meet the requirements of uninterrupted cooling of core and other safety related systems on a long term basis; the NPCIL should conceptualize schemes at the detailed project report stage for utilization of the water from upper Kodiyar storage reservoir for such eventuality; studies on bio-fouling and jelly fish, etc. that may affect the water supply should to be taken up, etc.;

ii. Environmental Clearance and Environment Impact Assessment have been done on wrong facts relating to source of water for KKNPP; disposal of Spent Fuel; Build of Reactor Pressure Vessel, since the presence of welds is contrary to the original design;

iii. The Environment Impact Assessment is incomplete, since the desalination plants township were ignored;

iv. The Reserve Water requirements as stipulated by AERB have been ignored;

v. Inadequate Site Evaluation;

- vi. No plan for Spent Fuel;
- vii. No study on impact of thermal pollution on marine ecology;
- viii. Non disclosure of Safety Analysis Report of KKNPP;
- ix. Non evaluation of post Environment Clearance Geological Events;
- x. Non obtaining of clearance under the Coastal Regulation Zone Notification;
- xi. Failure to inform the public about the offsite disaster management plan and measures to be taken in the event of an emergency;
- xii. Failure to assess and prepare for impact of cyclonic storms and tsunamis on the seawater intake structures for coolant and desalination;
- xiii. Post facto issue of Consent to Establish and violation of conditions contained therein;
- xiv. Conduct of emergency drill in violation of conditions contained therein;
- xv. Conduct of emergency drill in violation of all the mandatory procedures;
- xvi. Failure to assess the health impact in the light of the experience of Kalpakkam Nuclear Plant where the AERB has admitted to deaths due to cancer; and
- xvii. Lastly, the lack of effective public consultation.

3.5. It is stated that while the Department of Environment and Forest, Government of India in the letter dated 26.12.1988 has given clearance for installation of nuclear power plant at Kudankulam, in the subsequent letter dated 13.2.1989, the NPCIL was directed to adhere to certain conditions, one such condition being that "suitable arrangements have to be made to maintain the temperature gradient at 6oC between the cooling water and the receiving body (sea) so that the fish life shall not be affected", and another condition being that "the solid waste generated from the spent fuel shall be stored in a pool of water in spent fuel storage bay of suitable detention period till it is transported to a reprocessing plant". Further, it was emphasized that the proposed activities should have least interference with local flora and fauna as well as marine biology of the locality; and that the fresh water shall be drawn from Pechiparai reservoir

through pipeline.

3.6. It is also stated in the said affidavit by the proposed party that MoEF in the letter dated 9.5.1989 has granted environmental clearance for the project, however the site clearance was given by the AERB only on 10.11.1989 and, therefore, the environmental clearance given by the MoEF even before the finalization of the site is illegal. The proposed party even goes to the extent of saying that as per the clearance by the MoEF it is not clear as to whether the Kudankulam site was suitable, since the clearance has been given without having detailed project report. It is stated that it was thereafter on 20.11.1989, the Government of India has entered into an agreement with USSR (as it then was) for setting up of two VVER 1000 reactors in India. According to the proposed party, as per the contents of the said agreement, the USSR has agreed to take back the toxic and radioactive spent fuel from the reactors to Russia and since in the meantime the USSR collapsed, the project was abandoned for eight years and thereafter, a fresh agreement was executed between Russia (since USSR had disintegrated) and India on 25.3.1997.

3.7. According to the proposed party, the second agreement is different from the first agreement and as per the second agreement the spent fuel has to be retained in India and would not be taken back to Russia and that is a significant change in the component of the plant which will have more environmental impact, since the spent fuel which is to be retained in India would be highly toxic and its storage will pose an environmental challenge.

3.8. It is stated that Russia cannot be treated as the successor of the erstwhile USSR and VVER reactors are Ukrainian in origin and Russia does not have any legal basis in respect of the obligations under the treaty. Therefore, according to the proposed party, it is contrary to the Customary International Law and the Vienna Convention on Succession of States in respect of Treaties, 1978 and India should have entered only a fresh contract with Russia and there is no question of substitution of USSR with Russia in the contract entered on 25.3.1997, and hence the second agreement is totally distinct and the scope of the project has totally changed with a different country and the environmental clearance given on the basis of an agreement with one country cannot be validated in respect of an altered project.

3.9. It is also the case of the said proposed party that there is a vast change between the two periods of agreement and there is significant change in the legal requirement for obtaining environmental clearances under the Environment (Protection) Act. It is stated that by a notification dated 10.4.1997, the environment impact assessment notice issued by the Government of India through its MoEF dated 27.1.1994 in exercise of the powers conferred under the Environment (Protection) Act, 1986 was amendment and it has become mandatory to

conduct public hearing before giving clearance to the project. Therefore, according to the proposed party, the project cannot be undertaken after the amendment to the notification, since there was no public hearing and the procedure contemplated under the amended notification has not been followed.

3.10. The proposed party has also referred to various paragraphs in the notification which enables the rejection of any project on false information; false data; engineered reports, concealing of factual data, and false recommendations or decisions. It is stated that by the time the said notification was issued by way of amendment, the consent to establishment or the NOC from the TNPCB was not obtained by the KKNPP. It is also stated that any certificate issued by such authority would be valid only for five years. Therefore, unless a fresh environmental clearance is obtained following the procedure in the Environment Impact Assessment Notification of 1994, as amended, the project cannot be started.

3.11. It is stated that an application for consent to establish was made on 30.12.2001 and the TNPCB granted such consent to establish on 25.2.2004, while as per the MoEF after the site clearance was given in October, 2001, construction started, which is before the consent to establish and, therefore, according to the proposed party, it is a gross violation. The NPCIL without waiting for the consent to establish has proceeded to construct the nuclear plant. The consent to establish has been obtained as a post facto document, which, according to the proposed party, is in violation of the notification. According to the proposed party, the revalidation made by the MoEF against the Coastal Regulation Zone Notification of 1991 and the Environment Impact Assessment of 1994, as amended, are invalid and without application of mind. It is also the case of the proposed party that after the starting of construction by the NPCIL it engaged NEERI to carryout a comprehensive environmental impact assessment for KKNPP Units I and II and the post-facto clearance violates all norms.

3.12. It is further stated that the environmental clearances given by the State and the Centre in 1988 and 1989 were based on false premise that the fresh water requirement would be met from the Pechiparai dam and subsequently, it was decided to have a desalination plant for the purpose of fresh water and, therefore, in the final execution of the plant, the entire pipeline and other things have been abandoned and it would amount to alteration of the original scheme, which requires further clearance and the same has not been obtained.

3.13. In respect of the Spent Fuel, according to the proposed party, while under the original agreement the spent fuel has to be transported to USSR, in the later agreement with Russia the same has to be retained in India. According to the proposed party, the new development would amount to a fresh project and especially after the Fukushima accident, unless and until a

method has been properly formulated for the purpose of keeping the spent fuel in safe position, there is no authority on the part of respondents 1 to 3 to commission the plant.

3.14. Further, it is stated that in respect of the Reactor Pressure Vessel, which is the soul of a nuclear power plant, in one of the articles of the officers of the NPCIL dated 26.9.2005 titled "The VVERs at Kudankulam" they have stated that there was "no weld joints in the core region and the inside surface has an austenitic steel clad", while in the bulletin of AERB of the year 2008, it is stated that the "vessel now used has two welds in the core region". According to the proposed party, this change is a change in the design of the Reactor Pressure Vessel, which is not permissible.

3.15. According to the proposed party, the prior environmental clearances of the project has been obtained post facto and against the norms. It is also complained that adequate water proposal has not been made for the benefit of the people and the fresh water requirement for the entire area has not been dealt with and it is also stated that as per the report of NEERI, the condenser cooling water will be drawn from the sea using open channel/pipeline and when it is discharged in the sea there would be temperature variation of around 7oC. While as per the stipulation by the MoEF of the year 1989 the temperature of the coolant water should not exceed 5oC, NEERI has unilaterally increased it to 7oC without any basis and, therefore, there is likelihood of damage to the marine biological livings, apart from change in salinity levels.

3.16. It is also stated that the desalination plant which is proposed now instead of taking water from Pechiparai dam does not have environmental clearance under the Environment Impact Assessment Notification of the year 1994 or 2006; consent to establish under Air and Water Acts; and Coastal Regulation Zone clearance under the Coastal Regulation Zones, 1991. It is also stated that the introduction of the desalination plants creates a fatal risk to the nuclear safety. It is further stated that the reserve water requirement as required by the AERB has not been provided and there has been inadequate site evaluation and even as on date there is no proper plant for keeping the spent fuel. It is also stated that the impact of thermal pollution on marine ecology has not been properly studied.

3.17. The proposed party also relies upon various studies made by foreign authors to show that by the change of temperature there is a possibility for marine animals to be extinguished. It is also stated that the safety analysis report of KKNPP has not been disclosed and there is a failure to evaluate post environment clearance geological events and the conducting of emergency drill has been done in total violation of the mandatory requirements.

3.18. Therefore, according to the proposed party, inasmuch as the various requirements under

the various Acts, including the Tamil Nadu Pollution Control Board Act, have not been complied with and public hearings have not been conducted, which is mandatory, by relying upon a judgment of the Delhi High Court in *Utkarsh Mandal v. Union of India* (W.P.(Civil) No.9340 of 2009), the entire project is vitiated. It is also the case of the proposed party that the report should also contain and reveal the objections having been considered and reasons for negating the objections.

3.19. With the above said averments, the proposed party has filed this application for impleading the People's Union for Civil Liberties (Tamil Nadu and Puducherry) as respondent in the said writ petition.

OPPOSITION TO THE IMPLEADMENT OF "PUCL" BY

THE WRIT PETITIONER IN W.P.No.24770 of 2011

4.1. In the affidavit filed by the original writ petitioner opposing the plea of impleading of the PUCL, he has stated that the writ petition was filed on 19.10.2011 and it was heard by the Hon'ble First Bench and subsequently transferred to this Court and this Court has been hearing the matter for a long time which has been covered by the media visual and print widely. It is stated that the writ petitioner has filed two writ petitions one in W.P.No.24770 of 2011, which was filed at the time when the Government of India has constituted a Task Force to study after Fukushima disaster, and another in W.P.No.8262 of 2012 was filed on 25.3.2012 after the Task Force report was submitted and that writ petition was for a direction to implement the Task Force recommendations in Annexure-VIII to the report of the AERB before fuel loading of the reactor core starts in KKNPP and that writ petition was also admitted and many other writ petitions were also filed.

4.2. It is stated that PUCL, which is a national level human rights organization, was aware of the case which is pending for the past ten months and at the last moment, after the arguments have almost completed, the present petition for impleading has been filed, which according to the original writ petitioner is only to drag on the issue.

4.3. It is stated that while the writ petition has been filed to the effect as to whether the KKNPP underwent modernization and expansion after 1989 environmental clearance and whether respondents are required to obtain fresh environmental clearance under notifications dated 27.1.1994 and 14.9.2006, and in respect of that materials have been filed, the PUCL is challenging the Site Evaluation Report regarding KKNPP and the environmental clearance of the years 1988 and 1989, apart from the agreement entered between India and Russia on

25.3.1997, which is not the subject matter of the writ petition and, therefore, the impleading petition is not filed for the purpose of supporting the writ petition, but it is for a different reason. It is also stated that the impleading petitioner is neither a necessary nor proper party.

4.4. It is also stated that the learned Additional Solicitor General during the course of the arguments has produced both the agreements of the year 1989 and 1998 and those agreements are sought to be impeached by the impleading party which cannot be allowed. Even in the writ petition filed by the petitioner subsequently in W.P.No.8262 of 2012, the petitioner sought the implementation of the recommendations of the AERB.

4.5. With regard to the Kalpakkam Unit, which issue is sought to be raised by the impleading party, already a writ petition in W.P.No.26097 of 2011 filed by an Advocate, M.Vetriselvan is pending. It is also stated that most of the records which are now produced by the proposed party are already before this Court. It is also stated that fisherman community, which is likely to be affected in the event of commissioning of the plant is also represented by Fisherman Care by its President, L.T.A.Peter Rayan in W.P.No.13987 of 2012, which is also taken up along with these writ petitions and, therefore, when all the interested parties are present before this Court, there is no question of filing impleading petition as if applying the principle of Order I Rule 8 of the Code of Civil Procedure in a public interest litigation. It is also stated that allowing the impleading petition will amount to fresh trial of writ petitions, which cannot be permitted.

REBUTTAL BY PUCL

5.1. However, the above submissions have been repudiated by the proposed party on the grounds that Dr.V.Suresh has recused himself from the case and has withdrawn his vakalat and insofar as it relates to Ms.D.Nagasaila, she has resigned as Vice President of PUCL and, therefore, there is no bar for her to appear on behalf of the proposed party. It is also stated that the intention of the proposed party is only to assist this Court with various documents which are not placed by the original writ petitioner for the purpose of arriving at a proper conclusion.

5.2. It is stated that the intention is to oppose the erection of the atomic plant within the Coastal Regulation Zone, namely within 500 Mtrs. of the high tide line, which is held to be illegal by the Supreme Court in S.Jaganath v. Union of India, (1997) 2 SCC 87 and as a citizen it has got responsibility to bring the same to the notice of this Court.

5.3. It is also stated that the impleading party is challenging the Site Evaluation Report regarding KKNPP; the environmental clearances granted in 1988 and 1989; and the agreement of the year 1997 between India and Russia as farce and misplaced, and it is stated that the judgment of the

Supreme Court in Gopi Aqua Farms and others v. Union of India, (1997) 6 SCC 577 has no application to the present case and the present case relates to the atomic unit in the Coastal Regulation Zone and not shrimp farming.

DECISION ON THE IMPEADMENT OF PUCL

6.1. Since the impleading petition by the PUCL has been vehemently opposed by the writ petitioner, we are of the view that the said impleading petition has to be decided first before going into the merits of the case.

6.2. The technical plea raised by Mr.M.Radhakrishnan, learned counsel appearing for the original writ petitioner that Ms.D.Nagasaila, counsel appearing for the proposed party, herself being the Vice President of PUCL cannot be the counsel has been got over by her, as it is seen from the records that she has resigned her post as the Vice President of PUCL. Insofar as it relates to Dr.Suresh, who is another counsel who is also holding a post in PUCL, it is now stated in the affidavit that he has withdrawn his vakalat in the present impleading petition.

6.3. The knowledge about the case which has been pending before this Court by the proposed party is not denied. It is true that in Pragati Mahila Mandal, Nanded v. Municipal Council, Nanded and others, (2011) 3 SCC 464, the Supreme Court has held that even in cases of public interest litigation where the Court has got a flexible power, the judicial tenets of procedures are to be strictly adhered to and they cannot be given a go-by in the name of public interest litigation. The Supreme Court has held as follows:

"15. It is also well settled that laws of procedure are meant to regulate effectively, assist and aid the object of doing substantial and real justice and not to foreclose an adjudication on merits of substantial rights of citizens under personal, property or other laws.

16. Though the Courts entertaining PIL enjoy a degree of flexibility unknown to the trial of traditional court litigation but the procedure to be adopted by them should be known to the judicial tenets and adhere to established principles of a judicial procedure employed in every judicial proceedings which constitute the basic infrastructure along whose channels flows the power of the court in the process of adjudication. It would thus clearly mean that the Courts have to, in the normal course of business, follow traditional procedural law. However, minor deviations are permissible here and there in order to do complete justice between the parties."

But insofar as the said aspect relating to the judicial procedure, as stated above, the same has been rectified by the proposed party. Regarding the contention of the learned counsel for the

petitioner that in respect of the merits of the writ petition when the proposed party has chosen to attack the very project itself, which is not the case of the writ petitioner, it would amount to a parallel proceeding, we are of the view that on going through the materials supplied, we have decided to take up only those materials which are necessary for the purpose of deciding the issues covered in the writ petition and if the proposed party has averred anything which is against the very purpose of the writ petition, we propose not to deal with the same. In any event, on going through the typeset filed by Ms.D.Nagasaila on behalf of the proposed party, we find that all the necessary materials have been filed in the form of typeset easy for us to deal with the merits of the case.

6.4. The writ petitioner himself has filed another writ petition in W.P.No.8262 of 2012 which relates to the spent fuel and after the report filed by the AERB regarding the post-Fukushima disaster, and therefore regarding the same, in our view, there is nothing wrong in hearing the learned counsel appearing for the proposed party.

6.5. Insofar as it relates to the two agreements entered between the Government of India and USSR originally on 20.11.1989 and thereafter between the Government of India and Russia on 25.3.1997, as stated by the petitioner in his affidavit opposing the impleading, the said papers were forwarded by the learned Additional Solicitor General and we have in fact gone through the agreements and there is nothing about the validity of the agreements and this Court has to decide about the manner in which the spent fuel is to be dealt with by the Government of India and, therefore, the presence of the proposed party before this Court, in our considered view, is not going to substantially affect the plea made by the original writ petitioner. As stated above, at the risk of repetition we only state that any other averment made by the proposed party opposed to the very contents of the original writ petition is not going to be dealt with by us. We have only decided to accept the impleaded party as one of the parties for the purpose of hearing the learned counsel for the proposed party for having a full picture about the entire issue involved.

6.6. For the above reasons, the impleading petition in M.P.No.1 of 2012 in W.P.No.24770 of 2011 is ordered and the proposed party is impleaded for the above said limited purpose.

W.P.No.8262 of 2012

7.1. This writ petition has been filed by the petitioner, who filed W.P.No.24770 of 2011, for a direction against the respondents to implement the recommendations contained in Annexure VIII to the Report of AERB Committee to Review the Safety of Indian Nuclear Power Plants against External Events of Natural Origin so far as the said report relates to the safety assessment of KKNPP before the second stage of commissioning the said plant, namely Fuel Loading of the

reactor core and borated heavy water addition to moderator systems for flushing in specified limited quantity.

7.2. In the said writ petition, the Site Director of KKNPP has been arrayed as fourth respondent and that apart, this Court has suo motu impleaded the District Collector and the Superintendent of Police, Tirunelveli District as respondents 5 and 6 respectively.

7.3. This writ petition has been filed after the constitution of the Task Force by the Government of India with a Convener, four members and one invitee to review the capability of KKNPP to withstand and mitigate extreme natural phenomenon which have very low probability of occurrence but potential for loss of significant operational and safety systems.

7.4. According to the petitioner, the Task Force has earlier submitted an Interim Report on Safety Evaluation of the Systems of KKNPP post Fukushima event on 11.5.2011 and the said report states that "However, as a means to further enhance the level of safety and to build more defense in depth the committee recommends the implementation of the measures outlined to cope up with unanticipated and rare severe and multiple natural events having very low probability like the one that took place at Fukushima Nuclear Plants in Sendai prefecture of Japan." In the final report, the Task Force has required the respondents to comply with the requirements as contemplated in Annexure VIII to the said report and emphasized that unless and until the guidelines given are followed, the respondents should not proceed with the second stage of commissioning, namely fuel loading of the reactor core, which would be against the provisions of the Atomic Energy Act, 1962.

7.5. The petitioner has stated that the adherence to various conditions contemplated in Annexure VIII of the report is necessary, since there should not be another incident like either Hiroshima and Nagasaki, or Fukushima, or Bhopal disaster, and with the above averments the above said writ petition has been filed.

W.P.No.13987 of 2012

8.1. An organization called Fisherman Care, represented by its President L.T.A. Peter Rayan, has filed this writ petition for a direction against the Member Secretary, TNPCB to personally inspect the KKNPP with experts and issue consent order to operate only after the Project Director of NPCIL complies with the mandatory requirements contemplated in the consent to establish order dated 25.2.2004 of the TNPCB. This writ petition has been filed as a public interest litigation.

8.2. In the said writ petition, the District Collector and the Superintendent of Police, Tirunelveli District have been suo motu impleaded by this Court as respondents 6 and 7 respectively, while the Co-Convener of Coastal Actim Network, Chennai has been impleaded as 8th respondent on application.

8.3. According to the petitioner, the President and members of the petitioner association hail from Idinthakarai, a coastal village in Tirunelveli District which is situated near KKNPP, and they are interested in the welfare of the fisherman and the people living in the coastal districts surrounding Kudankulam.

8.4. It is stated that the TNPCB has issued a consent to establish order on 25.2.2004 to establish an industry called KKNPP in R.S.No.170/2b/170/3B, etc. in Kudankulam, Vijyapathi Villages, Radhapuram Taluk, Tirunelveli District under Section 25 of the Water Prevention and Control of Pollution Act, 1974, as amended in 1988 (Central Act 53 of 1988) and under Section 21 of the Air Prevention and Control of Pollution Act, 1981, as amended in 1987, and according to the petitioner, the consent to establish was valid only for two years or till the industry obtains consent to operate under Section 25 of the Water Prevention and Control of Pollution Act, 1974. The said condition is also applicable as per Section 21 of the Air Prevention and Control of Pollution Act, 1981.

8.5. It is stated that under the consent to establish the TNPCB has stipulated 15 special conditions and 13 general conditions as per the provisions of the Water Prevention and Control of Pollution Act, 1974 and 10 special conditions and 10 general conditions as per the Air Prevention and Control of Pollution Act, 1981 and the said consent letter also contemplates that the NPCIL should make a request for grant of consent to operate at least 60 days before commissioning of trial production.

8.6. According to the petitioner, as per the reply dated 2.4.2012 received by the petitioner in response to the application made by him under the Right to Information Act, the TNPCB has not granted consent order to operate the project and the TNPCB has not personally inspected and verified whether the safety measures have been taken up.

8.7. It is also stated that in respect of onsite and offsite disaster management of the plant, the plant has sent the emergency preparedness manual for the approval of the AERB and thereafter, it has to be approved by the District Collector in respect of the offsite emergency manual, and by the Director of KKNPP in respect of the onsite emergency manual. It is stated that in the Emergency Preparedness Manual it has been stated that regular training exercises to access the emergency preparedness will be conducted periodically.

8.8. It is also stated that the extent of fresh water required for two units for seven days is 600000 m³, whereas the availability of ground water in Kudankulam is very limited and there is no scope for the development of ground water in the nearby area and, therefore, relying on a desalination plant for supply of fresh water is highly dangerous and fresh water is a necessary ingredient to avoid any disaster.

8.9. As per one of the conditions with which the consent to establish was granted by the TNPCB, adequate number of coastal water quality monitoring stations should be set up. But, in contravention of the same, it is stated that coastal water quality is being monitored by the Environmental Survey Laboratory and according to the petitioner, monitoring stations are intended for prompt and continuing action to protect the marine resources, which cannot be done by a laboratory.

8.10. It is also stated that the cooling sea water requirement for the two units of KKNPP is 3,09,822 Cubic Meter per hour and 70% of the heat produced in the nuclear power plant is discharged as unutilized heat to the aquatic environment in condenser effluents and coolant air and the temperature of the receiving sea water should not exceed 7oC to protect the marine ecology, whereas the normal temperature of the receiving sea water is 28oC. It is also stated that the discharge of radioactive liquid waste from the two units of the nuclear power plant if not adequately treated will affect the quality of marine water and affect the bio-diversity of flora and fauna, and the marine resources found in the Marine National park and the wedge bank of Gulf of Mannar. Therefore, according to the petitioner, the second respondent is disregarding the conditions imposed by the TNPCB which is in violation of Articles 14 and 21 of the Constitution of India.

8.11. Insofar as it relates to the storage of radioactive fuel/spent fuel/radioactive wastes, except stating that the same will be complied with, the NPCIL has not come forward with any scheme to protect the environment. He would also rely upon some of the reports of the papers of the International Atomic Energy Agency of the year 1989 to the effect that once the radioactive isotopes are released into the atmosphere it will undergo dispersal, dilution, transportation and deposition processes depending on the meteorological conditions and affect the surrounding population in the form of external and internal radiation doses flowing into different routes and human health is likely to be affected and unless and until precautionary measures are taken by the NPCIL as per the conditions laid down by TNPCB, the project would violate Articles 14 and 21 of the Constitution of India.

8.12. It is also stated that the conduct of the Government of India, MoEF in making a statement

in the letter dated 6.9.2001 that inasmuch as the environmental clearance has been issued in May, 1989 itself and at that time there was no requirement of conducting public hearing, and therefore, there is no need for conducting a public hearing, only shows that fresh environmental clearance based on environmental impact assessment report and public hearing as mandated in the notification issued on 27.1.1994 have not been issued by the MoEF.

W.P.No.22771 of 2011

9.1. This writ petition is filed as a public interest litigation by a practicing advocate of the Madras High Court. The petitioner has prayed for forbearing the respondents from proceeding with the construction and functioning of the KKNPP before sufficiently providing for the facilities and infrastructure for the purpose of evacuation of the population within the radius of 170 Kms. of the said power plant to a safer place, including medical and rehabilitation facilities, by earmarking sufficient funds to be set apart taking into consideration the enormity of the said facilities.

9.2. It is the case of the petitioner that when in the year 1995 the commissioning of nuclear power project was made by the then Prime Minister of India, it was objected to by the petitioner, who has also filed a writ petition which was closed as premature, and now that the situation has arisen for the purpose of commissioning the KKNPP, he has again approached this Court by filing this writ petition.

9.3. According to the petitioner, the construction of nuclear power project is basically dangerous and destructive and the developed countries like USA, England, France, etc., are already thinking about the constructive aspect of the nuclear power. It is stated that by such atomic projects even though the idea is to tap power, the immediate environmental pollution is obvious. He has also referred to the Chernobyl accident in Russia on 26.4.1986. It is stated that in case of an accident like Chernobyl, the effect of radiation will be to the radius of 170 Kms. and the population within 25 Kms. should be evacuated within 12 Hours and the rehabilitation expenditure would be more than Rs.2000 Crores. It is also his case that some of the countries like Argentina, Brazil, China, Mexico, Spain, Germany, etc., have decided not to have nuclear power stations and in that background starting of such project with huge amount with a joint venture with Russia based on an agreement for production of 2000 MW power is hazardous. It is the anticipation of the petitioner that in the event of any untoward incident, the effect will be to the radius of 170 Kms. and the areas like Nagercoil, Panakudi, Nanguneri, Tiruchendur, Palayankottai, Ambasamudram and some of the areas in Kerala are likely to be affected.

9.4. He also states that the Former Chairman of AERB, Dr.Gopalakrishnan has revealed that more than 130 issues are to be answered regarding the safety measures of nuclear reactors and

out of that 95 issues related to nuclear power plants and as per the rights guaranteed under Article 21 of the Constitution of India, every citizen is expected to know the steps taken and merely because Section 18 of the Atomic Energy Act creates a bar, it cannot be an embargo to the constitutional right. It is his further case that the public must be informed about the steps taken by the respondents in the aspect of safety measures and it is the duty of the respondents to submit a report about the steps taken.

9.5. It is stated that in August, 2011 an awareness meeting was held in Edanthaikarai and thereafter, the public have collectively started agitating against the proposal and relay fast has been done and that was highlighted by the Hon'ble Chief Minister to the Office of the Prime Minister.

W.P.(MD) Nos.14054 and 14172 of 2011 and 1823 and 2485 of 2012

10. These four writ petitions filed in the Madurai Bench were directed to be posted along with this batch.

W.P.(MD) Nos.1823 and 2485 of 2012

11.1. W.P.(MD) No.1823 of 2012 has been filed for a direction against the District Collector and Superintendent of Police, Tirunelveli District to take deterrent steps to put down the violent activities of Udayakumar and to apprehend him under the National Security Act. Likewise, and W.P.(MD) No.2485 of 2012 has been filed seeking a direction against the Superintendent of Police, Tirunelveli District to take immediate action against Udayakumar, the President of Kudankulam Nuclear Power Project Protest Committee.

11.2. Insofar as it relates to the above said two writ petitions, it is the submission of Mr.A.Navaneethakrishnan, learned Advocate General and Mr.I.S.Inbadurai, learned Special Government Pleader that in respect of various complaints received and FIRs registered against the said Udayakumar, investigation is going on.

11.3. In fact, under similar circumstances, we have held in two of the cases, namely W.P.Nos.29861 of 2011 and 13589 of 2012, by order dated 25.7.2012, wherein it was prayed that the Government in the matter of public interest litigation has to be directed to proceed against the said FIRs pending in large numbers, that such public interest litigation cannot be entertained and the Court cannot direct the investigating authority to investigate in a manner it desires, for investigation is the prerogative of the police.

11.4. The same principle applies in this case also. Whether an individual for any of his activity is to be apprehended under the National Security Act or whether criminal action against Udayakumar is to be taken or not, is not for this Court to direct, especially in a public interest litigation. As stated above, the learned Advocate General as well as the learned Special Government Pleader have categorically stated that based on the FIRs registered, investigation is going on and steps would be taken after investigation is completed. Law is well settled that in cases of such investigation it is for the police to investigate in accordance with law and file its report to the jurisdictional Magistrate, who alone can take cognizance of any offence. Insofar as it relates to invocation of the National Security Act, it is for the Government to take action. It is needless to state that it shall be the duty of the Government to maintain law and order and we only close these two writ petitions leaving it open to the police to proceed with the pending investigation and act in accordance with law.

11.5. For the foregoing reasons, W.P.(Ms.)Nos.1823 of 2011 and 2485 of 2012 are closed. No costs.

W.P.(MD) Nos.14054 and 14172 of 2011

12.1. These writ petitions, which are also filed as public interest litigations, are for a direction against the respondents to immediately open the KKNPP Units 1 and 2 to meet the demand and shortage of electricity in the present scenario.

12.2. It is stated that for the development of the economy of the country it is necessary to have nuclear power plants. The petitioners have also stated that more than Rs.250 Crores has been spent for safety measures and the people of the villages like Chettikulam, Idindakarai and Levinchipuram have welcomed the building of KKNPP about 10 years ago and nearly 3000 Acres of land has been acquired and 16000 villagers have been provided with jobs in the construction activity. It is stated that the site has been selected in a place which is not prone for earthquake or tsunami.

12.3. It is stated that worldwide there are 529 Atomic Power Stations, namely in USA about 120, in Japan about 59, in Russia about 31 and in India about 15. According to the petitioners, preferring atomic energy for electricity is cheaper and safer, when compared to solar power, thermal energy through coal, oil or water.

12.4. It is also stated that agitation has been provoked by certain persons having monetary and political background and if the agitation goes on a sum of Rs.13,500 Crores already spent will go waste. The mere apprehension of danger cannot be a ground for stalling any project and if such

view is taken, no project could have come up in the world. In Russia, after Chernobyl incident no atomic power plant was started because it has attained self-sufficiency. It is stated that the power position in Tamil Nadu is such that there is a shortage of 2500 to 3500 MW and the cost of production of power by the KKNPP is less when compared to any other method and the innocent people have been instigated.

12.5. It is stated that the Former President of India and eminent Scientist has clarified the four important aspects of safety:

i. Structural Integrity Safety stating that the structure of the plant has been made with the highest safety standards which doubled containment and hermetically sealed to be safe against earthquakes and that to counter any risk of tsunami and cyclones, the plant is elevated to a minimum height of 6 Meters (pump house) and the auxiliary diesel sets are at a height of 9.3 Meters with a redundancy of four times in the diesel generators. It is stated that in the case of Fukushima, one of the primary reasons for structural collapse was the explosion in the hydrogen which got out of control and to counter this KKNPP has installed 154 hydrogen recombiners across the plant which can absorb any leaked hydrogen;

ii. Thermal Hydraulic Safety stating that it is the most advanced safety feature in the KKNPP is the installation of the Passive Heat Removal System (PHRS) which is latest in technology to ensure rapid cooling of the reactor in the event of a reactor problem. It is stated that the PHRS is a unique steam recirculating system can continue to cool the plant in the event of the failure of AC power and even when the worst possible scenario of coolant malfunction has occurred, without leaking any radiation in the atmosphere. It is also stated that there is also mechanism to rapidly cool the reactor in emergency situation using an elaborate system of showers which are installed in redundancy across the plant;

iii. Neutronic Safety stating that in any nuclear plant the most important cause of failure can be the loss of ability to control the neutrons being generated which is done by a system called control rods and besides the control rods, the KKNPP has uniquely implemented the latest technology in this domain The Core Catcher. This is basically an underlying structure with Gadolinium oxide which would catch the "neutrons" in the event of a highly unlikely meltdown and the core catcher is the ultimate defense which would, without any human intervention, or need of external power supply, cool down the fuel and reactor.

iv. Waste Management stating that a popular myth is that nuclear waste is dumped into the oceans which kills marine life and contaminates water and this is completely false. It is stated that many decades ago some of the nations used to dump nuclear waste in deep oceans away

from habitat but that practice is over now and with the closed loop cycle, the waste generated per year from 1000 MW plant is less than 3% and that, after verification, would not occupy a space of about 6 cubic Meters.

The petitioners have also stated that the Former President of India in the press interview has made it very clear that the people need not have any fear, since the planning of the KKNPP will be making history.

12.6. The petitioners have also stated that the AERB in its Code of Practice on Safety in Nuclear Power Plant has given certain guidelines and the same have been followed and the safety measures have been undertaken. The petitioners have also stated that the salient features incorporated in the KKNPP are:

- i. Passive Heat Removal System;
- ii. Quick Boron Injection System;
- iii. Provision of Multi-redundant safety trains;
- iv. System of emergency 1st and 2nd stage hydro accumulators;
- v. Passive Hydrogen Recombiner;
- vi. Annulus passive filtering system is provided to maintain vacuum and cleaning fluid in inter-space between double containment;
- vii. Higher redundancy for safety systems (four redundant sets of equipment).
- viii. Double Containment;
- ix. Larger numbers of control rods;
- x. Additional shutdown systems for the reactor like second quick-acting shutdown system and quick boron-injection system; and
- xi. Advanced instrumentation systems of advanced technology for Reactor Systems and Balance of Plant as well as for Plant Computer System.

12.7. With the above said particulars, the petitioners have filed these writ petitions for a direction to immediately open the KKNPP.

Counter affidavit of

Union of India, Department of Atomic Energy

13.1. In the counter affidavit filed by the Union of India, Department of Atomic Energy, it is stated that the writ petitions are not maintainable, since the matter relates to starting of an atomic energy project, which is a policy decision of the Government for the purpose of augmenting the generation of electricity. Electricity being the core priority industry essential for building the requisite infrastructure for development, the same has to be given highest priority.

13.2. According to the Union of India, the index of poverty in India is reflected in its per-capita yearly consumption of 214 KWh. of electricity as compared to per-capita consumption of 11900 KWh. In U.S.A. and the world average of 2100 KWh. It is stated that while the total generation of electricity in India during 2010-2011 was 830 Billion Units, as per the Planning Commission the requirement of the country is 830 Billion Units, which will raise to 1915 Billion Units by the year 2022.

13.3. It is stated that the share of nuclear electricity is hardly 3% whereas in developed countries it is very high and for instance it is 74.6% in France during 2008. Therefore, the Government of India would submit that the claim of the petitioners that there is no need for any electricity generation and nuclear power plant in India is most unreasonable and in respect of these issues the petitioners cannot be regarded as custodians of public perspective. It is stated that the generation of power through nuclear energy has been discussed at various levels and, therefore, the policy decision cannot be questioned by the petitioners.

13.4. The writ petition seeking a fresh review of KKNPP by affording opportunity to the public to express their view of feasibility is misconceived and the construction of the plant having been started many years ago, these petitions are liable to be dismissed on the ground of laches also.

13.5. It is stated that there was an inter-governmental agreement between the Republic of India and the USSR on 20.11.1988 for the construction of nuclear power station in India and this was followed by a supplemental agreement dated 21.6.1998 signed between the two countries. It is stated that the required land to locate the 21st Nuclear Power Generation Project in India was made available by the Government of Tamil Nadu and various Experts Committees and Regulatory Bodies set up by the Central Government and the State of Tamil Nadu granted

necessary regulatory and other clearances for setting up of the KKNPP.

13.6 It is also stated that the project being a nationally important project, the State Government was first consulted by the Central Government for its willingness and after the site was offered by the State along with its willingness, it was evaluated by the Site Selection Committee constituted by the Central Government, which evaluated the site based on the criteria laid down by the AERB's Code of Practice on Safety in Nuclear Power Plant Siting, which includes the assessment of seismicity, location of faults, geology, foundation conditions, meteorology, potential of flooding (from tsunamis, storm surge, etc. at coastal sites and from rain, upstream dam break, etc. at inland sites), proximity to airports, military installations, facilities for storing explosive and toxic substances, etc.

13.7. It is stated that environmental setting comprising of bio-diversity, including flora and fauna, marine ecology, etc. in the region have also been evaluated, and in addition to that the availability of land, water, electricity demand in the region and the availability of other energy options also form the basis for evaluation and it is thereafter, the Site Selection Committee has made recommendations to the Central Government. It is stated that thereafter the Government of India, after due process, accorded approval for the site and the Kudankulam site was evaluated and approved as per the then existing guidelines.

13.8. It is stated that after obtaining the in principle approval, the pre-project activities, including obtaining environmental clearance from MoEF and site clearance from AERB, were taken up along with parallel preparation of detailed project report. The Environment Impact Assessment, which is an exhaustive study of environment and population was carried out by an independent agency NEERI. The environmental clearance for Units I and II of KKNPP was obtained after following the due process prescribed by the MoEF. At that time, the law does not require any public hearing. However, subsequently, while obtaining environmental clearance for the KKNPP Units III and IV, as per the then prevalent notification of the year 2006, it required public hearing, including the responses to stake-holders, review by expert appraisal committee of MoEF, etc., and as per the notification, public hearing was held on 2.6.2007, based on which an evaluation report was submitted to the AERB, which after detailed review accorded site clearance for KKNPP.

13.9. It is stated that the Central and State Environmental Regulatory Bodies have granted the following consents:

a) Assurance of Pechipparai Water for Government of Tamil Nadu PWD June and December, 1983;

- b) Clearance by Committee on Conservation of Seashore, Government of Tamilnadu, for location of Atomic Power Station at Kudankulam September, 1987 and February, 1988;
- c) 500 Meters Shore line clearance April 1989;
- d) Clearance from Ministry of Environment and Forests, Government of India May, 1989;
- e) Clearance from Forest Department, Government of Tamilnadu July, 1989; and
- f) Environmental Committee Clearance by Environment and Forest Department, Government of Tamilnadu - 1988-89.

13.10. It is stated that apart from the Atomic Energy Act, 1962, the issue is governed by:

- i. Atomic Energy (Radiation Protection) Rules, 2004 or 2005;
- ii. Industrial Radiography (Radiation Surveillance) Procedures, 1980;
- iii. Atomic Energy (Factories) Rules, 1984;
- iv. Atomic Energy (Working of Mines, Minerals and Handling of Prescribed Substances) Rules, 1984;
- v. Atomic Energy (Safe Disposal of Radioactive Wastes) Rules, 1987;
- vi. Radiation Surveillance Procedure for Safe Transport of Radioactive Materials, 1987;
- vii. Radiation Surveillance Procedure for Medical Application of Radiation, 1989; and
- viii. Atomic Energy (Control and Irradiation of Food) Rules, 1996.

It is stated that the AERB constituted in the year 1983 is the competent authority under the above said statutory rules and it formulates the regulatory policies, etc. It is stated that the Secretariat of AERB comprises of seven technical divisions which function under the guidance of Chairman and Vice Chairman, AERB, and in addition, it has a Safety Research Institute (SRI) at Kalpakkam, to carry out R&D in support of regulatory and safety functions of AERB.

13.11. The functions and responsibilities of AERB are as under:

- a) Develop safety policies in both radiation and industrial safety areas;
- b) Develop Safety Codes, Guides and Standards for siting, design, construction, commissioning, operation and decommissioning of different types of nuclear and radiation facilities;
- c) Grant consents for siting, construction, commissioning, operation and decommissioning, after an appropriate safety review and assessment, for establishment of nuclear and radiation facilities;
- d) Ensure compliance of the regulatory requirements prescribed by AERB during all stages of consenting through a system of review and assessment, regulatory inspection and enforcement;
- e) Prescribe the acceptance limits of radiation exposure to occupational workers and members of the public and approve acceptable limits of environmental releases of radioactive substances;
- f) Review of emergency preparedness plans for nuclear and radiation facilities;
- g) Safety reviews for transport of large radioactive sources, irradiated fuel and fissile material;
- h) Review of the training program, qualifications and licensing policies for personnel of nuclear and radiation facilities and prescribe the syllabi for training of personnel in safety aspects at all levels;
- i) Take such steps as necessary to keep the public informed on major issues of radiological safety significance;
- j) Promote research and development efforts in the areas of safety; and
- k) Maintain liaison with statutory bodies in the country as well as abroad regarding safety matters.

As per the Atomic Energy (Radiation Protection) Rules, 2004, the AERB has issued nearly 140 Codes, Standards, Guides and Manuals.

13.12. It is stated that NPCIL was entrusted with the task of setting up KKNPP. It is stated that even though the inter-governmental agreement was signed on 20.11.1988, the actual

construction began only in 1997 and the cost to India was estimated to be US\$ 3 Billion (Rs.13,615 Crores) in 2001. Till 2004 the materials were to be brought via road from Tuticorin, risking damage during transportation and, therefore, a small port was established and became operational in Kudankulam on 14.1.2004 to enable receiving of barges carrying over sized light water reactor equipment from ships anchored at a distance of 1.5 Kms. It is stated that two 1 GW reactors of the VVER-1000 model are being constructed by the NPCIL and Atomstroyexport, a wholly owned Russian Government Company, and that will be the largest complex in India producing a cumulative 2 GW of electric power and both units are water-cooled and water-moderated power reactors.

13.13. It is stated that AERB has granted clearance for siting the KKNPP with two VVER-1000 MWe Units at Kudankulam in November, 1989 based on review of the report of the Site Evaluation Committee chaired by Mr.S.K.Mehta, followed by review by Advisory Committee for Site Evaluate chaired by Mr.S.M.Sundaram and finally by the AERB. It is stated that as per the recommendations of the workshop conducted in July, 2001 on "Consenting Process for NPPs", the AERB has granted clearance in three sub-stages, namely Excavation, First to Pour of Concrete (FPC); and Erection of Major Equipment (EE). It is stated that the clearance for excavation was given in October, 2001 subject to compliance of stipulations like restriction on surface mining of limestone with Exclusion Zone and Sterilized Zone and design of embankment for water storage reservoir as ultimate heat sink.

13.14. It is stated that before the next clearance of First Pour of Concrete, the Specialist Groups, KK-CG and ACPSR-LWR have reviewed the required PSAR chapters and ultimately issued recommendations in March, 2002. It is stated that sample civil engineering design verification checks for reactor building were taken up, apart from safety review of design of metallic liner for Inner Containment Wall (ICW), soil-structure interaction for raft under seismic event, seismic analysis models for reactor building, accidental torsion effects under seismic event, core catcher design, etc., were done and these proposals were reviewed by the Department of Atomic Energy and then by the Atomic Energy Commission and thereafter the same were sent to the Office of the Prime Minister for further deliberations and it is also denied that the Union of India did not seek environmental clearance from the Department after May, 1998 and it was satisfied with the clearance obtained in 1989.

13.15. It is stated that all aspects relating to maintenance of ecological balance and bio-diversity of the project area and its surroundings were taken into consideration by the authorities concerned. While it is true that NEERI has submitted a report in January, 2003, it is incorrect to state that the concerns expressed in the report of the NEERI were not taken into account while proceeding with the establishment of plant. It is stated that NPCIL is the agency entrusted with

the construction, erection and commissioning of KKNPP and it has complied with all the conditions imposed by the TNPCB and the AERB.

13.16. It is stated that KKNPP is located in such a strategic place beyond 1500 Kms. of the epicenter that may create a tsunami like the one that struck the Fukushima Plant in Japan, whereas Fukushima Plant in Japan was about 110 Kms. away from such epicenter and in fact, such events were considered in post-Fukushima reviews. It is denied that simply because final report has not been submitted by the Task Force, it can be presumed that everything is going to be disastrous. It is stated that all safety measures are in place and personnel have been trained to handle any type of emergencies. It is also stated that they have ensured safety and security of all living men, animals, food and food articles and other properties and taken steps to prevent any adverse impact on the bio-diversity and ecology of the project area and its surroundings, besides the protection of marine ecology and balance and the marine life by preventing any leakage of radioactive materials or release of radioactive isotopes either on land or in the sea.

13.17. It is stated that the technology employed in KKNPP is far superior when compared to the technology employed in Chernobyl and Fukushima and there are little chances for such an accident in KKNPP and suitable action to mitigate the damages and measures to prevent any disaster have been taken. It is stated that the petitioners have filed these writ petitions based on hearsay without knowing the real facts and that the KKNPP is installed with the advanced design and additional safety features and AERB issues clearances for various stages and sub stages after appropriate review and compliance of the requirements specified in the AERB Codes and Guides. It is stated that the information on the safety review of various stages and clearances issued to KKNPP at different stages are periodically reported by AERB in its annual reports and newsletters which are available on AERB's website for perusal and "hot run test" was permitted to be carried out in June, 2011 to verify the conformance of systems with specified design requirements without actual loading of the fuel and that AERB will issue further clearances subject to completion of review and resolution of related issues, including the implementation of measures post Fukushima accident.

13.18. It is also stated that the highlights of the safety review have been published in AERB's annual reports and newsletters as an usual practice. According to the Government of India, there is no chance of any harmful radiation exposure and all Safety Codes and Guides have been followed scrupulously. It is also stated that the Indian Nuclear Programme envisages reprocessing of spent fuel to recover Plutonium and depleted Uranium and the high level waste arising will be disposed off as per international practice and the same is being followed in India and therefore, the apprehension of the petitioners is baseless; and that the Department of Atomic Energy and AERB have been enforcing the safety provisions in a transparent and

effective manner and there is no need for any fresh review of the KKNPP and the ongoing review is comprehensive and adequate to ensure safety of all those living in and around KKNPP, including plants and animals.

13.19. It is also stated that the NPCIL prepared a Technical Assignment document for KKNPP in the year 1989 covering the scope, broad design specifications and safety requirements, including those specified by AERB. The Technical Assignment was reviewed by the Project Design Safety Committee (PDSC-KK) constituted by AERB with A.K.Anand as its Chairman and its comments were taken into account. It is stated that the AERB constituted an Advisory Committee for Project Safety Review for LWRs (ACPSR-LWR) in October, 1994 with S.K.Mehta as Chairman and this Committee had various specialist/expert members from both the Department of Atomic Energy as well Non-DAE Organizations and the Preliminary Safety Analysis Reports (PSARs) Topical Reports and Quality Analysis documents were submitted to AERB in 1999, which formed the primary basis for review and assessment by the AERB. The Safety Review of Pressurized Water Reactor (PWR) was being carried out in AERB as per "Governing Authorization Procedure for Nuclear Power Project/Plant (AERB/SM/NISD-1)". It is stated that in place of PDSC-KK which was earlier set up during 1989, a Co-ordination Group (KK-CG) was constituted in January, 2000 and many Specialist Groups were formed consisting of experts drawn from AERB, NPC and BARC for review of the Preliminary Safety Analysis Reports (PSAR Chapters). It is stated that the NPCIL has forwarded various Preliminary Safety Analysis Reports to AERB between March, 2000 and March, 2001 and the relevant standards of International Atomic Energy Agency and USNRC were used during the review process. The compliance with the Russian Normative Technical Documents (NTDs) and Technical Assignment was ensured.

13.20. It is also stated that the Specialist Groups made number of observations during review of design related PSAR Chapter (Rev-1) and subsequently, the NPCIL submitted PSAR (Rev-2) progressively from January, 2002 and a detailed review of these packages (Rev.2) was made along with Rev.1 and accordingly, the pending issues were resolved and it is thereafter the clearance for Erection of Equipments (EE) stage was granted for Unit-I in August, 2006 and for Unit-II in June, 2007.

13.21. It is stated that during the course of safety review of KKNPP, a number of issues such as Safety Classification of System, Structures and Components (SSCs) were discussed and resolved. It is stated that the effect of failure of anchor, fatigue life and deformation of the liner surface after pre-stressing of primary containment were specifically studied by employing a number of systems, including "Four Train Safety Systems". It is also stated that passive systems like Passive Heat Removal System, Second Stage ECCS Accumulators, System for retaining

and cooling of molten core (Ex-Vessel Core Catcher) etc. have been provided for catering to BDBA. In addition to the Active Emergency Boron Injection System, the Quick Boron Injection System has been incorporated for catering to Anticipated Transients Without Scram situations. It is stated that the NPCIL has obtained reports on these aspects from the designers and it was subsequently reviewed.

13.22. It is stated that KKNPP Units I and II are the most advanced and belong to the highest safety category in operating nuclear power plants currently in the world and these units are categorized as "Generation III Plus" Plants, meaning thereby that they have the latest safety features, which includes:

- i. Passive system of residual heat removal (PHRS);
- ii. Passive system of core flooding in case of loss of coolant accident;
- iii. Passive system of quick boron injection to shutdown the reactor;
- iv. Passive hydrogen recombiners;
- v. Double Containment;
- vi. Passive system of creating vacuum between containment walls with filters;
- vii. Corium catching and cooling system; and
- viii. 4 times redundant safety features separated by each other, powered by their dedicated diesel generator and instrumentation.

13.23. It is stated that the KKNPP has been designed to avoid happening of Chernobyl and Fukushima. It is stated that Chernobyl reactor was of type RBMK, which is a channel type boiling water reactor with light water as coolant and graphite as moderator and Chernobyl Nuclear Power Plant Unit-4, where the accident took place in 1986, was built to earlier standards and the reactor was designed in the 1960s and early 1970s and at that time the Comprehensive International Safety Standards such as Nuclear Safety Standards of the IAEA (NUSS) were not available and the consultation process was very limited. It is stated that the objective of the reactors designed in the Former Soviet Union was to produce electric power with high availability and safety was oriented towards preventive features, while mitigative features were given lesser consideration. The Chernobyl design had some inherent serious deficiencies,

including lack of containment building, which resulted in significant deviations from current safety standards. It also lacked the advanced safety features which have been inducted in the KKNPP reactors. It is stated that the difference between the Chernobyl reactors and most of the world's nuclear power plants is the Chernobyl's lack of a massive steel and concrete containment structure as the final barrier against large releases of radiation in an accident.

13.24. It is stated that in the Chernobyl accident, the localization system could not withstand the force of the accident because of various limitations. It is stated that the KKNPP units are called VVER, which is a Russian acronym for a water moderator water cooled reaction, is known in the west as Pressurized Water Reactor (PWR) type and is the main prevalent of the Nuclear Power Units in the world. It is stated that KKNPP is categorized as General III Plus plants and are the most advanced nuclear power plants in the world. It is stated that the most advanced nuclear power plants in the countries like USA, France and Russia are of earlier generation known as Generation II, while KKNPP is of later development, namely Generation III, which is the latest in the world. Therefore, the anticipation of incident of Chernobyl magnitude is impossible and the advanced system will definitely prevent the serious incident.

13.25. It is stated that AERB in accordance with the powers conferred under the Atomic Energy Act, 1962 has directed the NPCIL to fulfill the requirement of emergency preparedness plan and the respondents are bound to fulfill these requirements. It is also stated that all the directions in accordance with the AERB Code have been followed and are being implemented in letter and spirit; and that the plan for emergency evacuation is required and mock drill at regular intervals is required to be carried out to check the efficacy of the plant in order to meet the unforeseen factors. It is stated that the solutions provided are technological and procedural and the acceptable levels of safety are never set by technologists but by competent agencies at national levels, like AERB, Ministry of Environment and Forests, State Pollution Control Boards, etc. or at the international level, like World Health Organization, International Atomic Energy Agency, International Commission on Radiological Protection, International Standards Organization, International Labour Organization, etc.

13.26. It is stated that the entire mechanism to monitor, regulate and conduct such emergency procedures are in place and are being updated from time to time keeping in view the International Standards to meet such eventuality. It is stated that there is a full-fledged Crisis Management Group, which is responsible to lay down guidelines, policy and procedures to be followed to meet any eventuality and the District Collector of the District where the nuclear power plant is located is the Chairperson responsible for all activities of evacuation, rehabilitation, resettlement and relocation of the residents in the event of an emergency. It is also stated that physically such drills and exercises are being carried out on the spot to test and

check the existence of the required infrastructure, manpower, finances and other requirement by different agencies; and that the recently enacted Disaster Management Act, 2005 by the Parliament is to mitigate the effects of disaster and for undertaking a holistic, coordinated and prompt response to any disaster situation and as per the Act, the National Disaster Management Authority, State Disaster Management Authorities and District Disaster Management Authority have been constituted to meet out any eventuality.

13.28. It is stated that seeking a similar relief the PUCL and Bombay Sarvodaya Mandal (BSM) have filed W.P.Nos.1785 and 1792 of 1996 respectively before the Bombay High Court and the said writ petitions were dismissed on 30.1.1997 and that was challenged before the Supreme Court and the Supreme Court has also dismissed the Civil Appeals on 6.1.2004 and at present W.P.(C) No.464 of 2011 is pending before the Supreme Court to review the safety aspects of all nuclear installations in the country and the Supreme Court has taken upon itself the task of examining the validity of the Nuclear Liability Act, 2010.

13.29. It is stated that the first respondent has already spent Rs.14,000/- Crores as on 31.10.2011 on the project and has entered into international contracts giving rise to rights to the third parties and any interference by this Court would cripple economic development of the country.

13.30. It is also stated that the plant is constructed 7.65 Meters above sea level and when tsunami struck in 2004 the tides rose up to 2.5 Meters only and as per scientific studies the maximum level up to which the tides may rise is only 5.4 Meters. It is stated that the pumping place in KKNPP is located above 7.64 Meters, the turbine at 8.1 Meters, the nuclear reactor at 8.7 Meters, emergency diesel generators at 9.3 Meters and the power distribution units at 13 Meters and hence, the KKNPP is well protected.

13.31. It is stated that out of 529 atomic power plants throughout the world there are 20 in India and India is standing at 15th position in the generation and use of nuclear power at 4780 MW, while other countries in the world, to wit America (1,01,229 MW), France (63,239 MW), Japan (47,348 MW), Russia (23,091 MW), Germany (20,339 MW), South Korea (18,716 MW), Ukraine (13,328 MW), Canada (12,678), England (10,962 MW), China (10,231), Sweden (9,399 MW), Spain (7,445 MW), Belgium (5,943 MW) and Taiwan (4,927 MW) are ahead of India.

13.32. It is stated that public money to the tune of Rs.14,000/- Crores has been spent and these writ petitions are filed only to serve private interests and prevent public activity. Therefore, it is prayed that the writ petitions should be dismissed.

Additional Counter affidavits of the Union of India, Department of Atomic Energy

14.1. The Union of India, Department of Atomic Energy has also filed addition counter affidavits dated 25.6.2012 and 1.8.2012 after obtaining the leave of this Court. In the said affidavits, it is stated that the MoEF has granted clearance for desalination plant to use sea water in the place of Pechiparai Dam water. It is stated that for the purpose of cooling the steam generated by the reactor, which goes through the steam turbine which runs the electrical generator to produce electricity, sea water is used to the order of 2,40,000 m³/Hr and that water is to be drawn from the sea and passed through the condenser for both Units I and II and after cooling process is over, it will be sent back to the sea and, therefore, it is stated that the said process has not undergone any change from the date of obtaining clearance from MoEF in May, 1989 till date and hence, there is no necessity to issue fresh clearance.

14.2. It is stated that only for the purpose of domestic water requirement and make up to the process water requirement, instead of Pechiparai dam water, further sea water to the capacity of 320 m³/Hr is to be drawn and processed in the desalination plant to make it potable and use for domestic water requirement and makeup to process water requirement and, therefore, it is stated that after such use the balance water will be sent back to sea along with the 2,40,000 m³/Hr water drawn for cooling purposes. It is stated that 320 m³/Hr is a very minor quantity when compared to the sea water consumption of 2,40,000 m³/Hr and the consent taken from MoEF need not undergo any change, since there is no change or modification in the nuclear process of power generation, as stipulated originally.

14.3. It is stated that Comprehensive Environmental Impact Assessment and Environmental Management Plan for KKNPP units III to VI were prepared as per the Environment Impact Assessment Notification, 2006 and the said units, which are similar in design to that of Units I and II, had obtained environmental clearance from the MoEF in 2008 and 2009.

14.4. It is stated that in the original MoEF clearance given in May, 1989, the differential temperature raise of 5oC was stipulated for the sea water when it is sent back to sea, however in clause 84-B of a subsequent notification dated 22.12.1998, it stipulated that the discharged water temperature to the sea does not exceed 7oC over the ambient temperature at the final discharge point and this requirement is fully complied with by the KKNPP and it does not require any fresh consent or clearance from any of the authorities.

14.5. It is denied that the plant model was V-320 as contended by the petitioners and it is stated that the model based on Indian side requirements as agreed by USSR and later Russian Federation was always V-412 and there is no change at any point of time from the original

design intent as envisaged in 1988 and, therefore, there is no need for any fresh consent or clearance from MoEF on this score. It is also stated that KKNPP is also submitting periodical compliance reports to MoEF.

14.6. In respect of the necessity for public hearing post tsunami from MoEF, it is stated that there is no statutory requirement as such under any guideline or rule to conduct public hearing post tsunami in respect of units for which clearance was accorded in 1989 by MoEF. It is estimated that the water level cannot raise beyond 5.4 Meters due to tsunami, water surge and high tide all put together; and that the plant is situated at a height of 7.6 Meters elevation and all the important buildings like Reactor building, Diesel Generator building, etc. are located at further higher levels and, therefore, the KKNPP is highly protected plant. It is further stated that the AERB has also undertaken a thorough review of safety measures at Kundankulam in the wake of the Fukushima nuclear disaster.

14.7. In respect of the plea that the KKNPP has not complied with Rule 33 of the Radiation Protection Rules, it is stated that under the said rule the licensee shall submit the response plans for the plant and site emergencies to the competent authority for approval and also the response plans for off-site emergencies prepared by the appropriate authority to the competent authority for review and it clarifies that the emergency response plans shall be submitted to the competent authority prior to commissioning of the installation. It is stated that for NPCIL, which is executing the KKNPP, AERB is the competent authority and the response plans for the plant and site emergencies were duly approved by the AERB and similarly, the response plans for off-site emergencies prepared by the appropriate authority was submitted to the competent authority for review.

14.8. It is stated that the contention of the petitioner regarding the non establishment of laboratories all along the coast is untenable, since as per the Office Memorandum of the MoEF dated 9.5.1989 there shall be environmental cell with suitable personnel and a laboratory in the project and this stipulation has been complied with fully by the KKNPP. It is further stated that the clearance of the MoEF given in 1989 was subsequently revalidated in 2001 by MoEF under the letter issued by the Director, MoEF, dated 6.9.2001 and there is no necessity for any fresh consent or clearance.

14.9. In the affidavit dated 1.8.2012, it is stated that the Atomic Energy Act, 1962 was enacted to provide for the development, control and use of atomic energy for the welfare of the people of India and for other peaceful purposes and for matters connected therewith and the said Act empowers the Central Government to produce and supply electricity from atomic energy. The said Act was amended in 1987 to enable the Central Government to set up a Nuclear Power

Corporation or a Government Company which would design, construct and operate nuclear power stations. It is stated that the said Corporation or Company was intended to be in a position to raise resources other than what is available from Government for this program and also provide greater operational flexibility. The amendment also enabled the Central Government to entrust its powers to own, establish and operate nuclear power stations to a Corporation or Government Company and to enable such Corporation or Government Company to perform such other functions incidental to such powers as are conferred under the 1962 Act.

14.10. It is stated that NPCIL was incorporated in September, 1987 as a Government Company and it is wholly owned by the Government of India and it is under the administrative control of Department of Atomic Energy, Government of India and NPCIL was incorporated with the objective of operating the atomic power stations and implementing the atomic power projects for the generation of electricity in pursuance of the scheme and programs of Government of India under the Atomic Energy Act, 1962 and, therefore, it is not a commercial organization.

14.11. It is stated that the Inter-Governmental Agreement to construct the KKNPP was signed by the heads of Government of India and USSR on 20.11.1988 and followed by a supplemental agreement dated 21.6.1998 between India and Russia mainly to record the updates in the agreements in the areas of implementation methodology, division of scope of work and financial terms. It is also denied that there are differences in the Inter-Governmental Agreement of the year 1988 and the Supplemental Agreement of the year 1998, since it stipulates return of Spent Fuel to USSR under the original agreement, while the same is to be retained in India as per the Supplemental Agreement.

14.12. It is stated that the agreements are classified documents and the same were placed before this Court and it was referred to and returned and main technical differences between the 1988 Agreement and the 1998 Supplemental Agreement are as follows:

a) Parties to the agreement agreed on the changed project implementation approach from Turn-Key implementation of the Project to Technical Co-operation basis. Scope of involvement of India was enhanced and all civil construction work, transportation of the equipment and commissioning of the plant under technical assistance of the Russian side was taken over by the Indian side;

b) The 1988 Agreement provided that both the sides shall jointly determine the arrangement for spent fuel on mutually acceptable conditions;

c) However, in the 1998 Supplemental Agreement, Indian side also took over the responsibility

of storing and reprocessing the spent fuel of the plant and the retention and use of reprocessed material.

14.13. It is stated that the Supplemental Agreement was a major achievement to India, since under the 1988 Agreement Spent Fuel was to be sent to USSR/Russia, however under the 1998 Supplemental Agreement, Russia agreed for the Spent Fuel to remain in India, as also the right to reprocess the spent fuel. It is also stated that Spent Fuel is not a waste, but is a resource which could be reprocessed for separating Plutonium and Uranium from other fission products and can be utilized in a closed cycle to generate more nuclear power. It is stated that the residue which remains after reprocessing is called "high level waste" and the same will be melted along with glass by the process of vitrification so as to prevent any spillage and will be buried deep inside the earth at the facility to secure absolute safety as per international standards; and that this process of waste management is internationally accepted and is in accordance with the norms prescribed by AERB which are in tune with the best international practices.

14.14. It is stated that the provision for safe storage of Spent Fuel is available in all the Nuclear Plants in India, including KKNPP; and that for the storage of Spent Fuel KKNPP Units I and II have Spent Fuel Storage Pools inside the containment, where the Spent Fuel discharged from the reactor is stored under water. It is also stated that the capacity of each of these pools is sufficient to hold the discharge Spent Fuel from each of the reactor, which would be produced during seven years of full power operation of the reactor. It is also stated that there is a provision for transporting the Spent Fuel to a national reprocessing facility/facilities after appropriate time of cooling and the location of the facility/facilities is under deliberation. It is further stated that the transportation of Spent Fuel will be in accordance with the International norms as adopted by AERB.

14.15. It is stated that in future if it is required to enhance the Spent Fuel storage capacity at KKNPP site, it can be done by constructing an Away From Reactor (AFR) Spent Fuel storage facility and such system is already available in other nuclear power plants. It is also stated that the Government of India is bound and conscious of the safety aspects relating to the storage and transportation of the Spent Fuel as well as the waste in most proper and safe manner, which is evident from the manner in which it is being handled at the existing nuclear power plants.

Counter affidavit of the Union of India, Ministry of Environment and Forests:

15.1. In the affidavit filed by the Union of India, MoEF (second respondent in W.P.No.24770 of 2011, it is stated that the proposal for setting up KKNPP Units 1 and 2 was granted clearance by

the MoEF on 9.5.1989 and subsequently, based on the review of activities/work initiated at site on various components of the project and site visits made, the validity of the clearance granted earlier was communicated to the proponent on 6.9.2001.

15.2. It is stated that the Environment Impact Assessment Notification under the Environment (Protection) Act, 1986 requiring prior environmental clearance came into existence for the first time only on 27.1.1994, long after the clearance was granted by the MoEF for KKNPP Units 1 and 2, and the provisions relating to public hearing in the environmental clearance process was introduced only on 100.4.1997 and in the case of KKNPP, the environmental clearance has been granted before the Environment Impact Assessment Notification of 1994 and therefore, there is no necessity to have any public hearing before grant of clearance in respect of Units I and II.

15.3. It is stated that the MoEF has recognized thermal pollution due to proposed power plant as one of the potential areas of environmental concern and accordingly, while granting environmental clearance to Units III and IV, the MoEF had stipulated the following condition: "On-line continuous monitoring of the temperature of the discharged cooling water shall be carried out at the discharge point. It shall be ensured that the temperature differential of the discharged water w.r.t. the receiving water does not exceed 7°C at any given point of time."

15.4. It is stated that the Coastal Regulation Zone notification came into existence only in February, 1991, whereas clearance for Units I and II was granted as early as in the year 1989 and, therefore, the writ petition is misconceived.

15.5. In the counter affidavit filed by the MoEF in W.P.No.8262 of 2012, the MoEF has adopted the counter affidavit filed in W.P.No.24770 of 2011.

Counter affidavit filed by AERB

16.1. In the counter affidavits filed by the AERB, the third respondent in W.P.Nos.24770 of 2011 and 8262 of 2012 and the 5th respondent in W.P.No.13987 of 2012, it is stated as a preliminary objection that the writ petitions are not maintainable since they question the policy decision of the Government and seek to question the nuclear policy of the country insofar as it relates to peaceful purpose like generation of electricity. It is stated that W.P.No.24770 of 2011 is liable to be rejected on the ground of laches and acquiescence.

16.2. It is stated that the Inter-Governmental Agreement on the project was signed on 20.11.1988 by the then Prime Minister Mr.Rajiv Gandhi and the Soviet President

Mr. Mikhail Gorbachev for the construction of two reactors and it is stated that after the Government of Tamil Nadu has located the place at Kudankulam, various Experts Committees and Regulatory Bodies set up by the Central Government and the State of Tamil Nadu have cleared the setting up of the KKNPP, which is the 21st project in India.

16.3. It is stated that the site offered by the State Government was evaluated by the Site Selection Committee constituted by the Central Government (Department of Atomic Energy-DAE) and such evaluation was based on the criteria laid down by the AERB Code of Practice on Safety in Nuclear Power Plants Siting, which inter alia gives the mandatory and desirable requirements of the site from safety considerations and after the recommendations of the Site Selection Committee, the Central Government accords in principle approval for the site and the Kudankulam site was also evaluated by the Department of Atomic Energy.

16.4. It is stated that it was after the in principle approval granted by the Government, including the obtaining of environmental clearance from the MoEF and site clearance from the AERB, the NPCIL prepared a detailed project report based on the detailed studies comprising Geo-technical examination, Seismo-tectonic, Safe grade level, meteorological and other studies through expert organizations and the site evaluation report was submitted to the AERB, who made further review and accorded site clearance for KKNPP Units I and II and thereafter to Units III to VI.

16.5. As stated by the Union of India in its counter affidavit, it is stated by AERB that apart from the Atomic Energy Act, 1962 there are various Rules and Regulations governing the nuclear and radiation installations. It is stated that AERB was constituted in 1983 by the President of India in exercise of powers conferred under Section 27 of the Atomic Energy Act, 1962 to carry out certain regulatory and safety functions envisaged under Sections 16, 17 and 23 of the Atomic Energy Act, 1962. It is stated that under the Rules, the Chairman of AERB is identified as a competent authority and the Board formulates the regulatory policies and decides on all importance matters relating to consent, renewal of consents, enforcement actions, major incidents, etc. It is also stated that the secretariat of AERB comprises of seven technical divisions which function under the guidance of Chairman and Vice-Chairman of AERB. It is further stated that there is a Safety Research Institute at Kalpakkam to carryout research and development activities.

16.6. It is stated that the functions of the AERB include:

- i. Development of safety policies in both radiation and industrial safety areas;

- ii. Development of Safety Codes, Guides and Standards for siting, design, construction, commissioning, operation and decommissioning of different types of nuclear and radiation facilities;
- iii. Granting consents for siting, construction, commissioning, operation and decommissioning, after an appropriate safety review and assessment, for establishment of nuclear and radiation facilities;
- iv. Ensuring compliance of the regulatory requirements prescribed by AERB during all stages of consenting through a system of review and assessment, regulatory inspection and enforcement;
- v. Prescribing the acceptance limits of radiation exposure to occupational workers and members of the public and approve acceptable limits of environmental releases of radioactive substances;
- vi. Reviewing of emergency preparedness plans for nuclear and radiation facilities;
- vii. Safety reviews for transport of large radioactive sources, irradiated fuel and fissile material;
- viii. Reviewing of the training program, qualifications and licensing policies for personnel of nuclear and radiation facilities and prescribe the syllabi for training of personnel in safety aspects at all levels;
- ix. Taking such steps as necessary to keep the public informed on major issues of radiological safety significance;
- x. Promoting research and development efforts in the areas of safety; and
- xi. Maintaining liaison with statutory bodies in the country as well as abroad regarding safety matters.

As per the Atomic Energy (Radiation Protection) Rules, 2004, the AERB has issued nearly 140 Codes, Standards, Guides and Manuals.

16.7. It is stated that NPCIL was entrusted with the task of setting up KKNPP. It is stated that even though the inter-governmental agreement was signed on 20.11.1988, the actual construction began only in 1997 and the cost to India was estimated to be US\$ 3 Billion (Rs.13,615 Crores) in 2001. Till 2004 the materials were to be brought via road from Tuticorin, risking damage during transportation and, therefore, a small port was established and became

operational in Kudankulam on 14.1.2004 to enable receiving of barges carrying over sized light water reactor equipment from ships anchored at a distance of 1.5 Kms. It is stated that two 1 GW reactors of the VVER-1000 model are being constructed by the NPCIL and Atomstroyexport, a wholly owned Russian Government Company, and that will be the largest complex in India producing a cumulative 2 GW of electric power and both units are water-cooled and water-moderated power reactors.

16.8. While reiterating all the technical points raised by the Union of India in its counter affidavit regarding safety and other measures, it is stated that it is based on the detailed safety review AERB prescribes limits for discharge of radioactive waste in the environment and the same is also done in KKNPP. It is stated that the dose due to such releases are too small to be measured directly and the values are within the observed deviations of the natural background. It is also stated that the writ petition has been filed based on apprehensions as if a big catastrophe will engulf Tamil Nadu and it is reiterated that KKNPP is safer and the technology employed in the designing of KKNPP is far superior.

16.9. It is stated that NPCIL has submitted an application requesting consent for site excavation and an application was made in August, 2010 requesting clearance for hot-run of KKNPP Unit-I as part of commissioning sub-stage and the application along with relevant documents was reviewed by relevant Specialists Groups and Safety Review Committees of AERB as per the multi-tier review practice followed by AERB and accordingly, on 30.6.2011 AERB granted clearance for hot-run for KKNPP Unit-I and the site has submitted results of various tests conducted during this stage which are being reviewed by Specialists Groups and Safety Committee in AERB. It is stated that subsequent to this stage, the next major sub-stage of commissioning involves Initial Fuel Loading (IFL) for KKNPP Unit-I for which NPCIL has submitted an application on 18.4.2012 along with relevant documents requesting consent for the same and AERB is conducting safety review of the IFL application as part of its multi-tier review process before grant of consent. It is stated that one of the pre-requisites, as identified by AERB while giving clearance for hot-run of KKNPP Unit-I, was that all the relevant recommendations of various AERB Safety Committees should be assessed and these need to be implemented on a time bound schedule, for which NPCIL was asked to give their required submissions and the NPCIL is working on the detailed scheme of safety enhancements in the light of various safety committee recommendations.

16.10. It is stated that as per the approved Emergency Preparedness Plan, the KKNPP had conducted off-site emergency exercise on 10.6.2012, during which time the officials of AERB were also present. It is also stated that AERB is a responsible expert organization for enforcing regulations related to transportation, handling and storage of radioactive fuel/Spent

Fuel/radioactive wastes and there are well established regulatory guidelines available for the same.

16.11. It is stated that radiation is omnipresent and a person on an average receives a radiological dose of 2.4 mSv in a year from natural sources such as cosmic radiation, terrestrial radiation, etc., and the regulatory review carried out during the consenting stages invariably covers these aspects.

Counter affidavit of NPCIL

17.1. In the counter affidavit filed by the KKNPP through its Station Director, KKNPP, while raising a preliminary objection as to maintainability of the writ petition on the basis that the writ petitions challenge the policy decision of the Government, it is stated that the writ petitions are filed against public interest. It is stated that electricity is a core priority industry, essential for building the requisite infrastructure for development and the Planning Commission has given it the highest priority. While reiterating the index of poverty in India, as stated by the Union of India in its counter affidavit, it is stated that most of the questions raised in these writ petitions relate to political, executive and legislative policy, which is not within the realm of adjudication by the Courts of Law and the question whether the country requires the development of nuclear power is primarily for the Parliament, the Planning Commission, the Central and State Governments and the other authorities to decide based on scientific and technical studies and the same cannot be adjudicated by the Court.

17.2. It is stated that the object of the petitioner appears to be not to get more information, but to create and spearhead an anti-nuclear lobby. It is stated that the petitioners has raised various disputed questions of facts and dates, which are not within the jurisdiction of the Court; and that whatever is sought by the petitioners is already provided in Acts, Rules, Regulations and Guidelines and are being implemented strictly and, therefore, the petition is prejudiced and misconceived.

17.3. While tracing the factual matrix as to how the various bodies work starting from the principle enunciated by Dr.H.J.Bhabha on "Basic Safety Philosophy", it is stated that NPCIL reviews all aspects from designing stage to construction, testing, commissioning, operation and finally decommissioning of the nuclear power plants having an impact on the safety, environment and the general public. It is stated that the MoEF, the State Pollution Control Boards, AERB are among the regulatory bodies entrusted with the responsibilities for issue of mandatory clearances for nuclear power plants.

17.4. It is stated that the Atomic Energy Act, 1962 enacted by the Parliament under the powers conferred under Article 246 of the Constitution of India by replacing the earlier Atomic Energy Act, 1948 was further amended in the year 1987 incorporating enabling provisions empowering the Central Government to produce, develop, use and dispose of the atomic energy, including production and supply of electric, through it either by itself or through any authority or Corporation established by it or a "Government Company".

17.5. It is stated that it is in accordance with the said power and based on the definition of Government Company given under Section 2(bb) of the Atomic Energy Act, 1962, the Central Government in 1980s decided to carry out the generation of electricity through nuclear power stations, which was till then under the Control of Nuclear Power Board, a constituent unit of the Department of Atomic Energy, and thus NPCIL was incorporated in the year 1987 under the Companies Act, 1956 as a Government Company wholly owned by the Central Government. It is stated that the NPCIL is under the administrative control of the Department of Atomic Energy of the Government of India. The incorporation of the NPCIL was on 4.9.1987. As per the Office Memorandum dated 4.9.1987, the entire responsibility for the total damages in the event of nuclear incidents was taken by the Central Government. Therefore, the NPCIL is not an ordinary Government Company stated for commercial purpose and is a special company created for a special purpose.

17.6. It is stated that by constituting the NPCIL as a government company, the Central Government, which has the power to delegate the duties and powers under Section 27 of the Atomic Energy Act, 1962, has created a high powered regulatory board known as the AERB on 31.12.1983, specifying that the Board shall be responsible to the Atomic Energy Commission.

17.7. The major issues raised in the public interest litigation have been summarized by the NPCIL, in its counter affidavit, as follows:

- i. Proper regulatory procedure not followed and no public consultation made during the finalization of the project;
- ii. There has been a compromise on safety;
- iii. Chernobyl type of incident can happen at KKNPP;
- iv. Emergency Preparedness Plan and lack of resources to implement it;
- v. There has been an increase in bone cancers near (Madras Atomic Power Station) MAPS; and

vi. Provisions of the Atomic Energy Act and 130 issues raised by Dr.Gopalakrishnan

17.8.1. In respect of the first issue, it is stated that in respect of the nationally important project of setting up of nuclear power plant, the State Governments are consulted first by the Central Government for their willingness and the State Government while granting willingness offers the site and the site offered is evaluated by the Site Selection Committee constituted by the Central Government based on the criteria laid down by the AERB Code of Practice on Safety in Nuclear Power Plant Siting, as stated by the Union of India in its counter affidavit.

17.8.2. It is stated that the following clearances were obtained for the KKNPP:

(a) Clearance by the Committee on Conservation of Seashore, Government of Tamil Nadu for location of Atomic Power Station at Kudankulam September, 1987 and February, 1988;

(b) 500 Meters Shore Line Clearance April, 1989;

(c) Clearance from MoEF, Government of India May, 1989;

(d) Clearance from Forest Department, Government of Tamil Nadu July, 1989;

(e) Environmental Committee Clearance by Environment and Forest Department, Government of Tamil Nadu 1988-89. and the following consents were obtained from AERB:

a) AERB Clearance for Site Location November, 1989

b) AERB Clearance for Site Excavation October, 2001

c) AERB Clearance for First Pour of Concreting of RAB 22.3.2002;

d) AERB Clearance for First Pour of Concreting of RB 9.4.2002;

e) AERB Clearance for Construction beyond +17M Elevation for RB 15.6.2004;

f) AERB 'Civil Construction of Primary Containment of KKNPP-1 & 2 9.9.2004;

g) AERB Inspection Report on grout efficiency of second mockup for Horizontal Tendon H-40 10.3.2005;

- h) AERB Clearance for Erection of Major Equipment 30.8.2006;
- i) AERB Permission to start grouting operations for Horizontal tendons in IC Wall and Dome of IC for KKNPP 1 and 2 23.9.2006;
- j) AERB Clearance for Erection of Major Equipment for KKNPP-1&2 22.6.2007; and
- k) AERB Clearance for Hot-Run of KKNPP Unit-I, 30.6.2001.

17.8.3. It is stated that the officials of KKNPP have visited many schools and colleges and explained the various features of KKNPP and in addition, around 200 villagers from the nearby villages like Kudankulam, Chettikulam, Idinthakarai, Vijayapathy, Erukkanthurai, etc. were taken to Madras Atomic Power Station, Kakpakkam to have a realistic understanding of the benefits of the nuclear power station, followed by interaction with M.S.Swaminathan Foundation on Marine Life.

17.9.1. In respect of the second issue of compromising on safety, it is stated that radiation being the only danger, adequate steps have been taken for protection of occupational workers and the public, and in that regard international guidelines are prescribed by the International Commission for Radiological Protection and they are being strictly adhered to. It is stated that for the occupational workers, as per the said Guidelines, the maximum dosage should not be more than 50 milli sieverts (mSv) per year, the said Milli Sievert being a unit of radiation exposure dose and it is stated that this limit was lowered by International Commission for Radiological Protection in the year 1990 and India is only the third country in the world abiding by the said directions in respect of occupational workers and the maximum dosage is not more than 20 mSv per year, as prescribed by the AERB and it is stated that the occupational workers are medically examined at each nuclear power plant once a year and each worker's exposure to radiation is measured and monitored on a day to day basis and a chart of the radiation exposure of each occupational worker on a day to day basis is maintained.

17.9.2. While reiterating that the plant is most advanced one called Generation III Plus Plant, the various advanced features of the plant, as stated by the Union of India and AERB, have been emphasized. It is also stated that even in case of severe accident, there is no need for evacuation of persons or public who may be living beyond the plant boundary, but still as a next level of defense, an emergency evacuation plan exists for evacuating the public, which is planned as per the requirement of the AERB, and as per the direction of AERB, effective mock drills at regular frequency are being arranged.

17.10.1. While dealing with the next question raised in these public interest litigations indicating that Chernobyl type of incident can occur, it is again reiterated that Chernobyl is different, as stated by the Union of India in detail, and KKNPP is based on advanced technological development and is first of its kind in India. The inherent safety measures are also narrated in the counter affidavit to the effect that the fuel and coolant temperature coefficient of reactivity, power coefficient of reactivity and the void coefficient of reactivity are negative in case of VVER. The other important characters are stated to be a negative moderate temperature coefficient at working temperature, which means that any increase in temperature tends to shutdown the reactor; a negative power coefficient, which means in case of increase in power tends to suppress the power so that any inadvertent increase in temperature and power is naturally suppressed and limited; and a negative void coefficient, which means that nuclear chain reactions automatically stop when the coolant is lost.

17.10.2. That apart, the KKNPP has also robust double containment, which houses the nuclear reactor and respective nuclear systems and the containment structure of KKNPP Units I and II consists of two layers of protection, namely primary containment and secondary containment. It is stated that the primary containment is made of pre-stressed reinforced concrete with carbon steel lining on the inner surface and is designed to confine radioactive substances within primary containment under all conditions and during accident conditions, so that the level of radiation in external environment remains within acceptable limits. It is also stated that the primary containment structure has been designed in such a way that it can withstand external, natural and man-made impacts, such as seismic loads, external air shock wave and airplane crash and the primary containment is lined with carbon steel liner to meet high leakproof requirements of the containment to further prevent radioactivity leakage to the environment. It is stated that the secondary containment takes up the external impacts to protect the primary containment, reduce parameters of the dynamic effects to the equipment arranged within the primary containment and enhances the reliability of primary containment by providing stable ambient conditions and also to facilitate collection of leakage from the primary containment through the annulus and the containment structures at KKNPP Units I and II are subject to strength and leakproof tests during the commissioning and also during the operation of the plant as per the AERB regulatory requirements.

17.10.3. It is also stated that large number of safety systems have been incorporated and hydrogen is controlled and mitigated by a system of passive hydrogen recombiners within the containment and the system is designed to prevent hydrogen build up in the containment in the event of severe accident and, therefore, adequate steps have been taken, which were not available in the Chernobyl type reactors.

17.11. In respect of the next issue of Emergency Preparedness Plan (EPP) and lack of resources to implement it, it is stated that the AERB can always direct and instruct the KKNPP Unit to fulfill the requirement of emergency preparedness plan, in which event the unit is legally bound to fulfill the said requirements.

17.12. In respect of the next issue that there has been an increase in bone cancer near MAPS, it is stated that there is absolutely no evidence in that regard and a detailed study was initiated by NPCIL regarding health hazards by engaging leading institution like Tata Memorial Centre, and for MAPS, the report was submitted in the year 2001 by the then Director of Tata Memorial Centre, Dr. (Ms.) K.A.Dinshaw, a leading authority on cancer, whose report reveals that there is no exposure to radiation of nuclear installation origin to the spouses of employees and in conclusion, it was reported that there was no increase in cancer prevalence in the radiation workers of MAPS as compared to the non-radiation workers and this is in consistence with other power stations where surveys have been carried out, namely Tarapur Atomic Power Station, Rajasthan Atomic Power Station and Narora Atomic Power Station.

17.13. While speaking about the difference between the KKNPP and Fukushima, reiterating the stands of the Union of India that KKNPP is situated about 1500 Kms. from epicenter and the safe grade level for the site has been decided as 7.44 Metres above the mean sea level, it is stated that the strongest tsunami or storm surge has been determined as 5.44 Meters and all emergency power supply equipment are located well above the elevation and, therefore, there is no chance even in the worst case of tsunami for the project to be affected leading to radiation. It is stated that even under a hypothetical accident condition of core melt, the molten core is retained and cooled in a core catcher that is provided below the reactor vessel and radioactivity from the damaged or molten fuel cannot come out of the inner containment building inside which the reactor is housed and it is stated that it is an air tight pre-stressed concrete building designed for maximum pressure generated from the worst possible accident and is periodically tested for its leak tightness and any small leak from cable and pipe penetrations are retained by the outer containment building.

17.14. In effect, the counter affidavit of the NPCIL would reiterate that all safety measures have been taken and there is absolutely no reason to apprehend any fear about the safety or otherwise.

Counter affidavit filed by the TNPCB

18.1. In the counter affidavit filed by the TNPCB, which is the first respondent in W.P.No.13987

of 2012, it is stated that the TNPCB in its proceedings dated 25.2.2004 granted consent to establish both under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as amended, for establishing KKNPP and the said consent was issued for a period of two years and certain conditions both general as well as special, were imposed on the project proponent and it is stated that only after the compliance of those conditions, the TNPCB would issue consent to operate.

18.2. It is stated that the District Environmental Engineer and Assistance Environmental Engineer, Tirunelveli have inspected the KKNPP on 8.5.2012 and during the said inspection, the officials of the NPCIL were also present and it was intimated to them to furnish the details of the compliance of the conditions imposed in the order of consent for establishment, apart from the additional particulars with regard to the sewage treatment plant and effluent treatment plant and by letters dated 31.5.2012 and 7.6.2012, the details were furnished by the NPCIL.

18.3. It is stated that once again the officials of the TNPCB have inspected the KKNPP on 12.6.2012 and it was observed that the unit has furnished the compliance of the conditions appended to the consent for establishment and it was verified that the NPCIL has complied with all requirements, as stipulated in the general and special conditions and, therefore, it is stated that the allegation made by the petitioner that some of the conditions imposed by the TNPCB have not been complied with, is incorrect. It is added that the information stated to have been obtained by the petitioner under the Right to Information Act is outdated and NPCIL has updated the latest compliance vide their letter dated 7.6.2012, which indicates that all the conditions have been complied with.

18.4. It is stated that the Emergency Preparedness Manual has been approved by the AERB and reported in the compliance report dated 7.6.2012 and the NPCIL has also conducted a mock drill to assess the emergency preparedness, but the TNPCB is not a member in the Emergency Preparedness Manual.

18.5. It is stated that KKNPP is not depending on the ground water and it is the sea water that is used for the entire usage in the plant and the NPCIL utilizes the sea water through desalination in the process and domestic use and, therefore, the averment that the dependency of desalination plant is dangerous does not hold good.

18.6. It is also stated that the NPCIL has established a Environmental Survey Laboratory to monitor the water quality on land, in sea and air quality and radioactivity and the laboratory has been in existence since 2004 and the NPCIL has been periodically monitoring the parameters and it is stated that 34 sea water samples were collected along the shore from Kanyakumari to

Uvari every year at the frequency of three samples every month and in addition to that, two fish samples were analyzed every month and, therefore, the allegation that the authorities are negligent in implementing the safety norms is denied. It is emphasized that even before the commissioning of the KKNPP, the NPCIL has been sincerely developing the baseline data.

18.7. Insofar as it relates to the retaining of temperature of cooling water at the point of confluence in the sea as not exceeding 7oC as prescribed by the MoEF, it is stated that the TNPCB will take a decision at the time of issuing the consent to operate.

18.8. It is stated that in the compliance report dated 7.6.2012, the NPCIL has stated that A well engineered waste management programme is incorporated in the design of the plant. Transportation, handling and storage of radioactive fuel/spent fuel/radioactive wastes are done only with the prior consent of Atomic Energy Regulatory Board (AERB) following the guidelines prescribed by AERB. and, therefore, fuel filling cannot be done by the NPCIL without the permission of AERB and hence, the allegation that NPCIL is operating the plant for trial production is denied.

Counter affidavit filed by the District Collector, Tirunelveli

19.1. In the counter affidavit filed by the District Collector, Tirunelveli, it is stated that action has to be taken against the protestors sensitively, since they are using children, ladies and common public as a shield. It is stated that the Tamil Nadu State Cabinet on 19.3.2012 has decided to take immediate action on commissioning of KKNPP and has requested all people to cooperate with the decision of the Government. However, the People's Movement against Nuclear Energy (PMANE) continued their unpermitted fast against the Government's decision at Idinthakarai seashore. It is stated that road blockades were done by the protestors opposing the KKNPP and buses were stopped and ultimately on 19.3.201, normalcy has been restored to some extent.

19.2. It is stated that on 8.11.2011, the Expert Group members visited Tirunelveli and convened a meeting with the State Government nominees and members of PMANE and on 18.11.2011 the second meeting was held at the office of the Collector with the State Government nominees and local representatives. On 15.12.2011, the meeting of the Expert Committee of Central Government of Department of Atomic Energy and State Government representatives was held at the office of the Collector and on 31.1.2012, the Central Expert Group Committee constituted by the Government of India held discussions with the State Government nominees and local representatives. On 18.2.2012, the State Expert Committee constituted by the State Government arrived at Tirunelveli and held discussion with the Collector and inspected the KKNPP and the Committee held meeting with the representatives of PMANE at the office of the

Collector. It is stated that on 23.2.2012, at about 7.30 A.M. near Kootapuli seashore, while a five member survey team from IIC Technology Private Limited, who were authorised by the Department of Survey of India, were on survey work, the PMANE activists numbering around 50, led by S.P.Udayakumar, rounded up the team, beat them and snatched the laptop and other instruments available with them. It is stated that the Chief Secretary to the Government of Tamil Nadu convened a meeting on 15.5.2012 on the modalities to be observed on the CSR Plan for KKNPP with the NPCIL and the officials of the State Government.

19.3. It is also stated that the proposal of the Government for construction of 10,000 new houses in the existing residential areas will allay the fear of mass evacuation. It is also stated that the estimate for construction of concrete houses for KKNPP Neighbourhood Development Scheme is prepared at an estimate cost of Rs.3 Lakhs per house and the total cost of 10,000 houses is Rs.300 Crores and in addition to that, a request has been made to the Government to grant Rs.200 Crores for the following:

Sl.No	Works to be undertaken	Total fund required (Rs. in Crore)
1	Water Supply Desalination Plant	60.00
2	4 Groynes	80.00
3	Solar Street Lights and Drinking Water Supply Motors	16.00
	(i) Upgradation of PHC to GH at Koodankulam	10.00
4	(ii) Upgradation of PHC to GH at Chettikulam	1.00
	(iii) New PHC at Uvari	1.00
5	Upgradation of roads & Construction of new bridges	20.00
6	Cold Storage & Fish Marketing Facility	10.00
7	Out board Engine repair Shop	0.50
8	Fishing nets mending Storage Halls	1.50
Total		200.00

19.4. It is stated that on 9.6.2012, the Shift Charge Engineer declared a plant emergency and subsequently, the Site Director reached the plant, declared start of site emergency exercise; alert messages were sent to all the relevant officials, including the NPCIL, DAE, AERB, District Collector and the Line Department officials; and based on inputs from Environmental Survey Lab Team, the District Collector declared an Off-Site Emergency and exercise of counter measures were carried out in three stages, as prescribed in the Emergency Plan. It is stated that

Nakkanery Village, which is situated at a distance of about 7 Kms. From KKNPP, was selected as locally affected area for the purpose of the said exercise and the exercise was observed by the representatives from AERB, NPCIL Head Quarters and other officials of the NPCIL. It is also stated that all villages within 16 Kms. radius will be covered under this exercise as one village in every two years.

Contentions of Mr.M.Radhakrishnan

20.1. It is the contention of Mr.M.Radhakrishnan, learned counsel for the petitioner in W.P.Nos.24770 of 2011 and 8262 of 2012, that while the petitioner is not in total opposition to the KKNPP, his concern is that the requirements of various enactments Central and State, as well as the Rules framed thereunder, which are to be scrupulously followed, have not been followed at various stages and, therefore, without following the legal procedures, it is not proper for the project to be commenced.

20.2. It is his submission that the approvals and clearances obtained based on the original agreements between India and USSR in 1988 and 1989 cannot stand good since there has been a supplemental agreement in the year 1998 between India and Russia and according to him, that will have the status of altering the original scheme itself and that requires fresh approval by the competent authorities.

20.3. It is his submission that inasmuch as the public hearing has become necessary from 1997 onwards, by virtue of the Supplemental Agreement entered in the year 1998, apart from fresh clearance from various authorities, public hearing is also a mandatory requirement and that has been also enunciated under the Environmental Impact Assessment Notification issued by the Government in the year 1994.

20.4. According to him, the environmental clearance has not been obtained after the subsequent agreement and it is his submission that the writ petitioner in W.P.No.8262 of 2012 sought strict adherence to the conditions stipulated in annexure VIII of the AERB clearance report. It is submitted that as per the Radiation Rules, the Emergency Preparedness On-site and Off-site project has to be effected and that has not been done.

20.5. He would also substantiate his contention that by a Supplemental Agreement the very nature of the scheme has got changed, which is evidenced from the fact that under the original scheme water was to be drawn from Pechiparai dam and now the proposal has been given for the purpose of new desalination plant and for that purpose the environmental clearance is necessary.

20.6. He would rely upon the judgment of the Supreme Court in *Indian Council for Enviro-Legal Action v. Union of India*, (1996) 5 SCC 281 to substantiate his contention that instead of tolerating the infringement in the enactment of law, it is better not to enact law and, therefore, according to him, the Government when passed laws for the purpose of maintaining environmental balance has to necessarily follow its own rules.

20.7. He would rely upon the annual report of the AERB of the year 2007-2008 regarding the new proposal of desalination plant and would state that the same amounts to deviation and alteration of the project, which requires a further clearance.

20.8. He would submit that as per one of the conditions of the environmental clearance dated 9.5.1989, the temperature of the condenser water should not exceed 50°C over and above the ambient temperature of the water at the point of discharge in the sea, however this has been changed to 70°C and this change is a deviation of the original environmental clearance and, therefore, a special reference ought to have been made to the MoEF for the purpose of effecting the change to 70°C.

20.9. It is his submission that when the Union of India relies upon the notification dated 22.12.1998 issued by the MoEF that the discharged water temperature to the sea should not exceed 70°C, which is based on Rule 3, Schedule I of the Environment (Protection) Rules, 1986, and when even as per the Rules it requires the environmental clearance for the change of temperature, only after environmental clearance for the change of temperature is obtained, the authority competent would be in a position to decide about the fresh environment impact assessment in respect of the marine environment.

20.10. He would rely upon the scientific studies to show the threat to fish communities and population and would state that the same would result in a threat to livelihood of thousands of people, especially fishermen residing in and around the KKNPP and that takes away the right to life under Article 21 of the Constitution of India and, therefore, it is the duty of the Government to see that proper and fresh environmental clearance is obtained.

20.11. It is his submission that when the project was changed from drawing water from Pechiparai Dam to creating new desalination plant, necessarily it would result in pollution in the area which requires fresh clearance from the TNPCB and environmental clearance. He would insist that even as per the EIA Notification dated 27.1.1994, fresh environmental clearance is necessary for any existing project undergoing modernization or expansion and according to him, the difference in temperature and making a fresh desalination plant would amount to

modernization of the project and, therefore, special clearance has to be obtained.

20.12. It is also his submission that the plant model as per the agreements between India and USSR was V-412 and never V-320, however the Minister of State for Personnel, Public Grievances and Pensions and the Office of the Prime Minister even made a statement on the floor of the Rajya Sabha that the reactors in KKNPP have safety features on par with the latest VVER Model, VVER 1200 (AES 2006) evolved in the year 2006 after starting of construction of KKNPP in 2002 and the very concept of introduction of VVER model would amount to modernization and consequently, it is necessary and mandatory as per the EIA Notification dated 14.9.2006 to have a fresh environmental clearance and failure to obtain will result in violation of the notification of the Government.

20.12. While it is the admitted case of the respondents that the recommendations of the AERB High Level Committee for review of safety of Indian power plants in the light of the Fukushima accident is being carried out by the NPCIL in a time bound manner, it is his submission that till such compliance is made, actual fuel loading of KKNPP cannot be done and that also requires a fresh environmental clearance.

20.13. The reports prepared by the Experts Committees of the Central Government as well as the State Government for the purpose of allaying the fear of the people in and around Kudankulam are not statutory in nature and such Committees are not constituted under the Environment (Protection) Act, 1986 and the Expert Committees report with regard to KKNPP have not yet been made public and in the event of this Court perusing the report, it is necessary in the interest of justice that the entire scientific and technological reports relating to the nuclear energy must be referred to renowned scientists, who maintain that KKNPP is the outcome of a "technology from hell", since this Court cannot give any opinion about the experts views and according to him, there should be a continuing mandamus issued by the Court.

Contentions of Mr.G.Rajagopal, Senior Counsel

21.1. Mr.G.Rajagopal, learned Senior Counsel appearing for the petitioner in W.P.No.13987 of 2012 (4th respondent in W.P.No.24770 of 2011), namely the Fisherman Care, an association constituted for the betterment of the fishermen in the State, would submit that the TNPCB has not given its consent to operate as per Section 25 of the Water (Prevention and Control of Pollution) Act, 1974, as amended in 1988, and under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended in 1988, and even before the consent to operate is granted, there has been commencement of trial production with dummy fuel, especially when the respondents have not substantially fulfilled many of the conditions given in the consent to

establish given by the TNPCB.

21.2. It is also submitted that the way in which the KKNPP is being decided to be operated in an urgent manner imposes fear on the people that the conditions of safety and protection of environment stipulated by the Government itself have not been properly implemented and, therefore, this writ petitioner has sought a direction against the TNPCB to personally inspect the KKNPP with experts and thereafter issue the consent to operate.

21.3. According to the learned Senior Counsel, while the TNPCB has stipulated 15 special conditions and 13 general conditions in its consent to establish order as per Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and 10 special conditions and 10 general condition as per Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 and has also directed the NPCIL to request for a grant of consent to operate at least 60 days before commencement of the trial production, there have been many violations, namely the special condition regarding discharge of cooling water has not been complied with. It is his submission that the normal temperature of the receiving sea water in the KKNPP, which is to the extent of 3,09,822 Cubic Meters Per Hour is 28oC and the TNPCB has identified the Gulf of Mannar biosphere as a sensitive area and the Gulf of Mannar extends from Dhanushkodi to Kanniyakumari with 21 islands and the radioactive liquid waste discharge in the sea if not adequately treated will result in deterioration of the quality of marine projects and biodiversity of flora and fauna.

21.4. It is submitted that condition No.20 also states that in view of the discharge in the Gulf of Mannar, the temperature of cooling water should be brought down to ambient temperature of sea before discharge. The ambient temperature, which means natural temperature of the sea, requires the condition that the NPCIL should ensure the discharge is at the ambient temperature. However, by notification issued by the Union of India, through the MoEF, dated 22.12.1988, a stipulation has been made that at discharging point the resultant rise in temperature of receiving water should not exceed 7oC over and above the ambient temperature of the receiving water bodies. It is submitted that in the said notification it is stipulated that the cooling water discharge should not be permitted in estuaries or near ecologically sensitive areas like mangroves, coral reefs/spawning and breeding grounds and any relaxation would affect the flora and fauna of the region.

21.5. He would submit that there is a breach of the condition relating to setting up of coastal water quality monitoring stations as given by the consent to establish order issued by the TNPCB, however the TNPCB has changed it subsequently as an Environment Survey Laboratory, having been established from the year 2004 itself, which according to the learned

Senior Counsel is in disobedience of the earlier conditions given by the TNPCB. Therefore, according to the learned Senior Counsel, the coastal water quality monitoring stations should be set up to monitor adverse changes in the water to have the remedial effect as and when required and single laboratory is not contemplated anywhere. He would submit that the coastal water quality monitoring stations which is required is for the purpose of preventing any possible human error that may result in disastrous consequences and in such event, the single Environment Survey Laboratory would not be sufficient to face the situation.

21.6. He would further submit that in respect of other conditions relating to on-site and off-site disaster management plan, the area around KKNPP within a radius of 30 Kms. has been divided into three zones. The area up to a radius of 2 Kms. has been defined as an Exclusive Zone, which comes under the purview of the NPCIL; the area from 2 Kms. radius to 5 Kms. radius is defined as Sterilized Zone; and the area from 5 Kms. to 30 Kms. radius has defined as Monitoring Zone and the latter two zones are coming under the control of the District Collect.

21.7. With regard to the stand of the TNPCB that two volumes of on-site and off-site preparedness plans are shown during inspection approved by AERB and that the mock drill has been conducted to assess the emergency preparedness, it is the contention of the learned Senior Counsel that mock drill was done in a small hamlet called Nakkaneri, while the Comprehensive Environment Impact Assessment of KKNPP specifically states that the emergency preparedness operations have to be done in the monitoring zone, which is within 30 Kms. radius from the Power Plant. It is stated that the very condition is to create awareness among the people and, therefore, the conducting of a mock drill only in Nakkaneri is not accordance with the requirements. Insofar as it relates to the off-site emergency preparedness, the District Collector must do the act as a continuing process. He would also refer to another special condition which contemplates the regular training drills for personnel, and would submit that the TNPCB has merely chosen to state that the unit has training programmes and no records have been produced to show that actually they conducted the training.

21.6. It is his submission that if the second respondent fails to obtain clearance and does not conduct public hearing, which are mandatory in nature, it would amount to rash and negligent conduct and for any disastrous consequences, the respondents are liable and it affects the fundamental rights of the citizens living in the said area guaranteed under Articles 14 and 21 of the Constitution of India. Therefore, according to him, there must be an order of injunction against the entire project as such.

Contentions of Ms.D.Nagasaila and Mr.T.Mohan

22.1. According to Ms.D.Nagasaila and Mr.T.Mohan, learned counsel appearing for one of the respondents who was impleaded, the NPCIL, being a government company created under the Companies Act, its object is commercial in nature of engaging in the business of purchasing, selling, importing, exporting, producing, trading, manufacturing and dealing with hydro-electric, thermal, wind and other power projects using conventional or non-conventional sources of electricity and, therefore, NPCIL, being a private entity, which is a commercial establishment doing business transactions is authorised the sensitive object for the purpose of getting monitoring benefit to the Company and Units I and II of the KKNPP with 1000 MW each has been constructed on the coast within 300 Meters from sea.

22.2. They would specifically submit that during the nuclear reaction, the fuel fissions an atom of Uranium is split and the resultant spent fuel even though is a waste, it has Uranium content and is thermally hot and highly radioactive, requiring remote handling and shielding and such radioactive isotopes may decay, or disintegrate to harmless materials. They would submit that Plutonium239 has a half-life of 24,000 years. They would rely upon the Prime Minister's statement in November, 1981 that nothing should be allowed within 500 Meters of the high tide line to maintain beauty and ecological integrity of the nation's beaches.

22.3. It is also submitted that in the original agreement of the year 1988 it was informed that only two nuclear power plants are to come up and spent fuel would be temporarily stored and shipped to Soviet Union and for that clearance given by the MoEF on 26.12.1988 and that was amended with certain conditions on 13.2.1989 stating that the temperature gradient must be 6oC between cooling water and the receiving body; that the spent fuel shall be stored in a pool of water in spent fuel storage bay of suitable detention period till it is transported; that the activities to be proposed will have least interference with local flora and fauna; that fresh water shall be drawn from Pechiparai dam through pipelines.

22.4. It is submitted that the approval of MoEF, Government of India for the KKNPP given on 9.5.1989 grants special exemption from ban on construction within 500 Meters from high tide line and imposes a condition that the condenser water temperature should not exceed 5oC over and above the ambient temperature of the water at the point of discharge into the sea and site clearance was given by the AERB on 10.11.1989 and it was thereafter the fresh agreement was entered between India and USSR on 20.11.1989 incorporating a new device of VVER 1000 reactors and the spent fuel was agreed to be shipped to USSR.

22.5. It is submitted that as per the CRZ notification issued on 19.2.1991, within 500 Meters from the high tide line the prohibited activities are not permitted to be carried on except the permissible activities, and the nuclear power plant being a prohibited activity, is not coming

under the permissible activities. It is further submitted that in the meantime the Environment Impact Assessment notification dated 27.1.1994 was issued by the Government, in which the nuclear power has been listed as Item-I and Schedule I contemplating a public hearing, apart from making it clear that the clearance granted shall be valid only for five years from the year of commencement of operation and this cannot be termed to be a clearance given for ever. It is submitted that NPCIL has made an application for consent to establish to the TNPCB on 30.12.2001, which was granted on 25.2.2004 and, therefore, the exemption granted in the above said notification by the Government of India for Nuclear Power Projects with regard to the clearances of the Station Government, including no objection certificate from the TNPCB, is not applicable to the KKNPP. It is further submitted that the further agreement entered into between India and Russia on 25.3.1997 should be considered as a new agreement and, therefore, the project must have been deemed to have been undergone a change.

22.6. The learned counsel would rely upon the judgment of the Supreme Court in *S.Jaganath v. Union of India*, (1997) 2 SCC 87 in the context of shrimp farms, wherein it was held that as shrimp culture does not relate directly to the water front nor is directly needing foreshore facilities, it was a prohibited activity, and would submit that atomic energy is also not directly related to water front or directly needing foreshore facilities and, therefore, the very installation of the plant is against the Coastal Regulation Zone notification and is not valid and the respondents have no manner of right to proceed with the said plant.

22.7. Inasmuch as the Environmental Impact Assessment is valid only for five years, the exemption granted from public hearing is of no meaning. While the EIA is only for two plants, eight plants are contemplated, which according to the learned counsel is against law. It is their submission that changing water source from Pechiparai dam by making desalination plant is a new plan and it requires a fresh reconsideration; and that the rise in temperature at the discharge point in the sea is expected to be around 7oC, which though may meet the requirement of MoEF, is in violation of the condition of 5oC imposed by the MoEF in its approval dated 9.5.1989 and 6oC imposed by the Tamil Nadu Government in its approval dated 13.2.1989.

22.8. They would also submit that after the order of consent to establish given on 25.2.2004, there is a change in the design of vessel in the form of VVERs at the Kudankulam and in this reference has been made to an article dated 26.9.2005 titled 'The VVERs at Kudankulam' wherein it is stated that the pressure vessel has no weld joints in the core region and a bulletin of AERB of the year 2008, wherein it is stated the vessel now used has two welds in the core region and it is contended that without giving opportunity to the people to participate and express their opinion the change in the design is against the clearance granted earlier.

22.9. Insofar as it relates to the Off-site Emergency Exercise conducted at Nakkaneri Village, according to her, the statement of the District Collect as if such exercise was done is a total farce.

Contentions of Mr.L.Chandrakumar

23. Mr.L.Chandrakumar, learned counsel appearing for the petitioner in W.P.No.22771 of 2011 would adopt the arguments of Mr.G.Rajagopal, learned Senior Counsel and Mr.M.Radhakrishnan, learned counsel and submit that the KKNPP is opposed to public interest and the legal requirements have not been followed.

Contentions of the Advocate General

24.1. It is the contention of Mr.A.Navaneethakrishnan, learned Advocate General appearing for the Tamil Nadu Pollution Control Board that the consent to establish was given on 25.2.2004 even though the application was made in the year 2001 by the NPCIL and that was subject to conditions contemplated under the Water Prevention and Control of Pollution Act, 1974, and Air Prevention and Control of Pollution Act, 1981 and subsequently after complying with the conditions, the NPCIL has applied for consent to operate on 8.5.2012 and it is his submission that inasmuch as clearance for the project was given before the coming into force of the notification contemplating mandatory public hearing, it is not necessary to given such public hearing as the same would amount to ex-post facto hearing, which is not permissible in law.

24.2. It is his submission that the period of limitation given for the purpose of consent to establish is for the purpose of starting of the construction of the building and there is no further limitation and in this case within four months from the date of consent to establish, the construction activity has been started and there is no question of any renewal thereafter. It is also submitted that the consent to operate has been issued only after being satisfied that all requirements have been followed and the conditions have been scrupulously adhered to.

Contentions of Mr.Krishna Srinivasan

25.1. Mr.Krishna Srinivasan, learned counsel appearing for the NPCIL would submit that the plant has got approval from all regulatory bodies up to the present stage in which fuel loading has been started and other requirements have been scrupulously complied with. It is his submission that the Four Expert Committees have considered the Post Fukushima accident and found that there is no possibility for any nuclear risk either in Kalpakkam or in Kudankulam and

moreover, even in the year 2004 when tsunami occurred, the Kalpakkam project has not been affected. He further submitted that the experts from AERB, Committees appointed by the Central Government and the Committees appointed by the State Government, who are all eminent persons in the field of science and technology after visiting the plant and meeting the people have given reports to the effect the KKNPP is a safe project. He would submit that experts views have been obtained on many occasions and emergency preparedness and mock drill has been done in accordance with law. He would rely upon the judgments in *University of Mysore v. C.D.Govinda Rao*, AIR 1965 SC 491, *Tehri Bandh Virodhi Sangarsh Samiti and others v. State of U.P. and others*, 1992 Supp (1) SCC 44 and *Systopic Laboratores (Pvt.) Ltd. v. Dr.Prem Gupta*, 1994 Supp (1) SCC 16.

25.2. According to him, the project proponent, namely NPCIL, is statutory in its nature and he would submit that it is a farce to state that because NPCIL is a Government Company under the Companies Act, the objects are commercial. He would submit that NPCIL is a wholly owned company of the Government created as per the Atomic Energy Act only for the purpose of developing nuclear project in the country and the intention is not commercial or business, and that it is registered under the Companies Act only to give corporate status.

25.3. It is his submission that at the time when application was made and consent to establish was granted as per the then existing legal provisions, there was no requirement of public hearing and in accordance with the then existing rules clearances from the public authorities have been obtained and construction was commenced and after construction of the building and complying with conditions contemplated by various authorities, including the TNPCB, when an application was made for the purpose of issuance of consent to operate, objections are raised only based on unfortunate Fukushima accident. It is submitted that the public hearing which has been contemplated vide the notification of the year 2006 is prospective in nature and would be applicable only for the new projects which may be started thereafter and will not apply to a case where the consent to establish has been granted much before and such public hearing which is sought now by the petitioners is an empty formality. He would rely upon the decisions in *Zile Singh v. State of Haryana and others*, (2004) 8 SCC 1 and *Sangam Spinners v. Regional Provident Fund Commissioner-I*, (2008) 1 SCC 391 to substantiate his contention.

Contentions of Mr.R.Suresh Kumar

26.1. Mr.R.Suresh Kumar, learned counsel appearing for the AERB in these writ petitions would submit that the regulation came into effect in November, 1983 with safety aspect of nuclear installations and there are various stages consent to establish, consent to commence, and consent to operate and in every stage, the AERB, which is governed by its own regulations

created by the experts in the field, issues necessary certificates by way of detailed orders after the scientists and experts are satisfied as to the compliance of the requirements by the NPCIL. It is submitted that after the removal of dummy fuel, application has been made for the purpose of consent of loading fuel, which of course now is stated to have been granted by the AERB after inspection.

26.2. He would rely upon the various reports of the Experts Committee of AERB and state that before initial fuel loading is done, the compliance of all the requirements under Annexure VIII will be ensured by the AERB and it is only after its satisfaction any direction will be given and now its is brought to the notice of this Court after having been satisfied, the AERB has given its report giving clearance.

26.3. In respect of desalination plant, it is his submission that when originally water was required for potable water, which has nothing to do with the project, a decision was taken to draw water from Pechiparai dam and inasmuch as the farmers in the said area started objecting, it was decided to have a desalination plant in the plant area itself and the desalination plant is in no way connected with the project and it is only for the purpose of drinking water and not for use in the project at all.

Contentions of Mr.Inbadurai, Spl. Government Pleader

27.1. Mr.Inbadurai, learned Special Government Pleader appearing for the State Government while producing the sealed cover report of the Expert Committee appointed by the Government of Tamil Nadu has forwarded the report dated 27.2.2012. He would submit that in fact as per the AERB Guidelines, mock drill was conducted and emergency preparedness plan was made in Nakkaneri Village, which is near the project itself. According to him, off-site emergency drill has been done in the manner known to law and the authorities have been educated properly so that in the event of any eventuality they will guide the people in a proper manner.

27.2. He would submit that proposal is being made for the purpose of giving various facilities to the people living in and around the KKNPP area and in fact the proposal for construction of 10000 houses costing Rs.300 Crores is being processed and steps will be taken by the Government immediately for the purpose of putting up such construction. He would also submit that the Government has also proposed to spend another Rs.200 Crores for the purpose of rehabilitation of the fishermen in the area, so as to enable them to have better livelihood without being afraid of the project and steps are also being taken based on the reports of the Expert Committee constituted at the direction of the Hon'ble Chief Minister of the State of Tamil Nadu to ensure people's safety and also infuse confidence in the minds of the people by according

various facilities, etc.

27.3. He would also submit that in respect of the writ petitions filed against Udayakumar, while it is true that road blockades have been done at his instance and even now fasting is being carried on, the law and order is being maintained by the Government and peoples movement at present is not affected and in fact the officials entering into the project compound are not affected by any of the agitators. He would also state that the investigation in respect of the various complaints given against various people, including Udayakumar, are being investigated and shall be proceeded in accordance with law.

Contentions of Mr.M.Ravindran, then Additional Solicitor General

28.1. Mr.M.Ravindran, learned then Additional Solicitor General, who originally appeared for the Union of India, has submitted that the entire project has been made as per the Atomic Energy Act and many experts reports have been considered before and during the establishment. He would rely upon series of judgments in People's Union for Civil Liberties and another v. Union of India and others, (2004) 2 SCC 476, Secretary and Curator, Victoria Memorial Hall v. Howrah Ganatantrik Nagrik Samity and others, (2010) 3 SCC 732, Dr.Basavaiah v. Dr.H.L.Ramesh and Others, (2010) 8 SCC 372 and State of Tamil Nadu and others v. K.Shyam Sunder and others, (2011) 8 SCC 737, apart from one unreported judgment of the Supreme Court directly connected with the atomic project, to emphasize that the experts reports cannot be interfered with except when there is mala fide attributable.

28.2. He would also submit that the present KKNPP is totally different from the Fukushima Atomic Project and KKNPP being the 21st nuclear power plant, the Government of India has taken utmost care, especially after the Fukushima accident.

Contentions of Mr.Mohan Parasaran, Additional Solicitor General

29.1. Mr.Mohan Parasaran, learned Additional Solicitor General of India, who has also made submissions on behalf of the Government of India would trace the constitution of the NPCIL to the Atomic Energy Act and submit that what is done by the NPCIL is not a commercial venture, but is done for and on behalf of the Government of India and the NPCIL is a wholly owned by the Central Government and its object is not profit motivated or commercial in nature and it is only for the purpose of creating NPCIL as an agent of the Government of India for the purpose of implementation of the aims of the Atomic Energy Act on behalf of the Government of India and therefore, the apprehension of the petitioners that NPCIL can divest the share holding is unfounded and the allegations have been made without knowing the historical background.

29.2. It is his submission that while the Government of India and USSR have signed the original agreement dated 20.11.1988, the Supplemental Agreement was signed on 21.6.1998 by the Government of India and Russia, mainly to put on record the updates in the agreements of the sides in the areas of implementation methodology, division of scope of work and financial terms and it does not change the project itself.

29.3. It is submitted that after signing the 1998 agreement for setting up of 2 units of 1000 MWs each, the Department of Atomic Energy sought relaxation in respect of proposed KKNPP regarding the norms/guidelines in respect of the condition that the coastal beaches should be kept clear from all buildings up to 500 Meters from the water level at the maximum high tide and at that point of time only the Environment Protection Act, 1986 was in force and on 19.4.1989, the Prime Minister has passed an order of exemption of the 500 Meters norm for Units I and II of KKNPP and the norm of 500 Meters distance itself is based on an earlier statement made by the Prime Minister and not a statutory requirement.

29.4. It is submitted that on 9.5.1989 the Government has granted approval through the MoEF in respect of Units I and III based on the Environmental Appraisal Data/Environmental Impact Assessment submitted by the NPCIL in 1988 and that was reiterated once again to be valid on 6.9.2001 and that reiteration was based on a letter of clarification by the TNPCB and at the time of granting environmental clearance in respect of Units I and II, there was no statutory requirement for conducting public hearing and it was only by a subsequent notification dated 27.1.1994 the public hearing became a prerequisite, whereas in respect of NPCIL the approval has been granted, as stated above, on 9.5.1989 and, therefore, the question of public hearing, which is applicable prospectively, cannot be made applicable to existing project.

29.5. It is also submitted that the project was evaluated by the Site Selection Committee of the Government as per the norms laid down by the AERB Code of Practice on Safety in Nuclear Power Plant Siting, which includes the assessment of seismicity, location of faults, geology, foundation conditions, meteorology, potential of flooding, proximity to airports, military installations, facilities storing explosive and toxic substances, etc. and the site was also evaluated by the SSC and approved after due process on 10.11.1989.

29.6. It is submitted that the various other clearances were granted by the Government of Tamil Nadu authorities before the 500 Meters shore line clearance in April, 1989 and 9.5.1989 Environmental clearance by MoEF thereafter. It is also submitted that the various other clearances obtained are: Clearance by Committee on Conservation of Seashore, Government of Tamil Nadu for location of Atomic Power Station at Kudankulam September, 1987 and

February, 1988; Clearance from Forest Department, Government of Tamil Nadu July, 1989; and Environmental Committee Clearance by Environment and Forest Department, Government of Tamil Nadu State 1988-89, and the consent to establish under Water and Air Acts was granted by the TNPCB on 25.2.2004.

29.7. It is submitted that the notification which has been subsequently issued regarding the Coastal Regulation Zone as well as the notification making it compulsory for the purpose of public hearing are not applicable to the project for which the approval was granted even on 9.5.1989. It is also his contention that CRZ Notification came into existence on 19.2.1991 and the EIA Notification was issued on 27.1.1994, which clearly state that they come into effect from the said date of publication and that means that it is applicable to the new projects and not to the projects already in existence. In other words, it is submitted that the public hearing contemplated by a subsequent notification cannot be made applicable to an establishment which was already started and there is no question of ex-post facto hearing, when no hearing at all was contemplated when the approval was given.

29.8. It is his submission that for the purpose of ensuring safety, the continuing process of evaluation is done by the KKNPP Units I and II, through the NEERI, for establishing baseline environmental status and preparation of Environmental Management Plan. It is also submitted that the experts like M.S.Swaminathan Research Foundation have also been consulted and detailed studies have been made regarding Geo-technical examination, Seismo-tectonic, Safe Grade level, Meteorological by expert agencies.

29.9. He would also reiterate that NPCIL cannot be termed as a commercial entity and when a similar issue was raised regarding the safety of nuclear power plants, the Supreme Court in W.P. (Civil) No.464 of 2011 Common Cause and Others v. Union of India and Others, has issued rule only in respect of one issue, namely to declare the Civil Liability for Nuclear Damage Act, 2010 as unconstitutional and void ab initio, and in respect of the other prayers made, the Supreme Court has dismissed the plea.

29.10. While meeting the argument made on behalf of the PUCL in respect of the rise in temperature of condenser water which was raised from 50C to 70C over and above the ambient temperature of the water at the point of discharge, it is submitted that the temperature has been varied by the MoEF in the interest of the environmental protection and not specifically with respect to the project proponent alone.

29.11. While meeting the next contention that desalination plant requires a fresh environmental clearance and public hearing, it is his submission that the desalination plant does not require

any fresh environmental clearance and he has also submitted that it is only for the purpose of taking potable water, which was earlier decided to be drawn from Pechiparai Dam, and this change has nothing to do with the project and, therefore, there is no question of modernization by virtue of this change and consequently, there is no necessity to obtain any fresh environmental clearance.

29.12. Apropos the next contention of the PUCL that the KKNPP is not entitled to exemption as per the EIA Notification dated 27.1.1994, Mr.Mohan Parasaran, learned Additional Solicitor General would submit that the said notification has been misconstrued by the PUCL. He has also submitted that the argument advanced that environmental clearance will be valid only for five years is untenable and the condition of five years will apply to the projects which have not taken any steps to implement at all and in the present case, within five years the NPCIL has already started implementing the project by putting up construction, etc. and, therefore, the five years bar is not applicable to NPCIL.

29.13. According to the learned Addition Solicitor General, the writ petitions challenging the project and seeking further clearance from various authorities are baseless and are liable to be dismissed.

Contentions of Mr.A.Sivaji and Mr.M.S.Suresh Kumar

30. Mr.A.Sivaji and Mr.M.S.Suresh Kumar, learned counsel contended that the project being a matter of public importance, it has to be implemented immediately and the writ petitioners, who are opposing the project now, have been waiting for a long time for the reasons best known to them and the agitations are made for extraneous considerations and they have submitted that the so-called scientific research reports relied on by Ms.D.Nagasaila are not proper studies made and the same have been made only with an ulterior motive for the purpose of stalling the project, for which thousands of Crores have been spent by the Government of India for the purpose of using atomic energy for generating electricity for the public.

M.P.Nos.1 and 2 of 2012 in W.P.(MD) No.14172 of 2011

31. With regard to the petition in M.P.Nos.1 and 2 of 2012 in W.P.(MD) No.14172 of 2011 filed by Ms.A.Rajini, satisfied with the reasons stated in the accompanying affidavit, we hereby order the impleadment. We have heard her on merits. She has supported the contentions of Ms.D.Nagasaila and opposed the project as against human rights.

32. We have heard all the respective counsel, including the learned Additional Solicitor General,

the learned Advocate General and the learned Senior Counsel, and have waded through the voluminous papers as well as the reports submitted by the various parties, including the Government of Tamil Nadu dated 27.2.2012, and given our anxious thought to the issues involved, which are definitely a matter of importance having worldwide ramifications, especially after the Fukushima accident.

33. The basic issue which arises for consideration in this batch of writ petitions is as to whether the KKNPP started by the Government of India through the NPCIL has all required confirmations as per the various statutory provisions, so as to enable the project to proceed further.

FukushimaNuclear Accident

34.1. After the nuclear accident which has happened in Fukushima, the magnitude of the problem increased manifold, since there has been discussion worldwide about the relevancy of atomic energy project even for peaceful purposes.

34.2. The National Diet of Japan has constituted the Fukushima Nuclear Accident Independent Investigation Commission (NAAIIC) for the purpose of conducting a review. The Chairman of the Commission, Kiyoshi Kurokawa, in his message to the global audience stated that the main reason for the accident was negligence. In fact, in his message he has stated that "What must be admitted very painfully is that this was a disaster "Made in Japan". Its fundamental causes are to be found in the ingrained conventions of Japanese culture: our reflexive obedience; our reluctance to question authority; our devotion to sticking with the program; our groupism; and our insularity." Historically, it was due to the oil deficiency which happened in Japan in 1970, they have thought of the nuclear power to achieve national energy security. In his message, he has chosen to state the attitude of Japanese bureaucracy in defending the organization which has made up its mind to proceed for the atomic energy concept to promote national energy security by putting the organizational interest ahead of their paramount duty to protect public safety. It is relevant to extract the relevant paragraph:

"This conceit was reinforced by the collective mindset of Japanese bureaucracy, by which the first duty of any individual bureaucrat is to defend the interests of his organization. Carried to an extreme, this led bureaucrats to put organizational interests ahead of their paramount duty to protect public safety."

34.3. The NAIIC was created as per Article 10 of the NAIIC Act with the following mandate:

"1. To investigate the direct and indirect causes of the Tokyo Electric Power Company

Fukushima nuclear power plant accident that occurred on March 11, 2011 in conjunction with the Great East Japan Earthquake.

2. To investigate the direct and indirect causes of the damage sustained from the above accident.
3. To investigate and verify the emergency response to both the accident and the consequential damage; to verify the sequence of events and actions taken; to assess the effectiveness of the emergency response.
4. To investigate the history of decisions and approval processes regarding existing nuclear policies and other related matters.
5. To recommend measures to prevent nuclear accidents and any consequential damage based on the findings of the above investigations. The recommendations shall include assessments of essential nuclear policies and the structure of related administrative organizations.
6. To conduct the necessary administrative functions necessary for carrying out the above activities."

34.4. The Fukushima Daiichi Nuclear Power Plant is owned and operated by Tokyo Electric Power Company (TEPCO). The report shows that when the earthquake occurred, Unit 1 of the Fukushima Daiichi plant was in normal operation at the rated electricity output according to its specifications; and Units 2 and 3 were in operation within the rated heat parameters of their specification; and Units 4 to 6 were undergoing periodical inspections. It is seen that the emergency shut down feature went into operation at Units 1, 2 and 3 after commencement of the seismic activity. It is seen that seismic tremors damaged electricity transmission facilities between the TEPCO, Shinfukushima Transformer Substations and the Fukushima Daiichi Nuclear Power Plant, resulting in total loss of site electricity.

34.5. It is also seen from the report that the earthquake flooded and totally destroyed the emergency diesel generators, the seawater cooling pumps, the electric wiring system and the DC power supply for Units 1, 2 and 4, resulting in loss of all power except for external supply to Unit No.6. The report ultimately found that insofar as it relates to the nuclear accident, it was clearly manmade and the Commission believed that the root causes were the organizational and regulatory systems that supported faulty rationales for decisions and actions, rather than issues relating to the competency of any specific individual.

34.6. The Commission has ultimately issued certain recommendations, which are as follows:

Recommendation 1:

Monitoring of the nuclear regulatory body by the National Diet

A permanent committee to deal with issues regarding nuclear power must be established in the National Diet in order to supervise the regulators to secure the safety of the public. Its responsibilities should be:

1. To conduct regular investigations and explanatory hearings of regulatory agencies, academics and stakeholders.
2. To establish an advisory body, including independent experts with a global perspective, to keep the committee's knowledge updated in its dealings with regulators.
3. To continue investigations on other relevant issues.
4. To make regular reports on their activities and the implementation of their recommendations.

Recommendation 2:

Reform the crisis management system

A fundamental reexamination of the crisis management system must be made. The boundaries dividing the responsibilities of the national and local governments and the operators must be made clear. This includes:

1. A reexamination of the crisis management structure of the government. A structure must be established with a consolidated chain of command and the power to deal with emergency situations.
2. National and local governments must bear responsibility for the response to off-site radiation release. They must act with public health and safety as the priority.
3. The operator must assume responsibility for on-site accident response, including the halting of operations, and reactor cooling and containment.

Recommendation 3:

Government responsibility for public health and welfare Regarding the responsibility to protect public health, the following must be implemented as soon as possible:

1. A system must be established to deal with long-term public health effects, including stress-related illness. Medical diagnosis and treatment should be covered by state funding. Information should be disclosed with public health and safety as the priority, instead of government convenience. This information must be comprehensive, for use by individual residents to make informed decisions.
2. Continued monitoring of hotspots and the spread of radioactive contamination must be undertaken to protect communities and the public. Measures to prevent any potential spread should also be implemented.
3. The government must establish a detailed and transparent program of decontamination and relocation, as well as provide information so that all residents will be knowledgeable about their compensation options.

Recommendation 4:

Monitoring the operators TEPCO must undergo fundamental corporate changes, including strengthening its governance, working towards building an organizational culture which prioritizes safety, changing its stance on information disclosure, and establishing a system which prioritizes the site. In order to prevent the Federation of Electric Power Companies (FEPC) from being used as a route for negotiating with regulatory agencies, new relationships among the electric power companies must also be established built on safety issues, mutual supervision and transparency.

1. The government must set rules and disclose information regarding its relationship with the operators.
2. Operators must construct a cross-monitoring system to maintain safety standards at the highest global levels.
3. TEPCO must undergo dramatic corporate reform, including governance and risk management and information disclosure with safety as the sole priority.

4. All operators must accept an agency appointed by the National Diet as a monitoring authority of all aspects of their operations, including risk management, governance and safety standards, with rights to on-site investigations.

Recommendation 5:

Criteria for the new regulatory body

The new regulatory organization must adhere to the following conditions. It must be:

1. Independent: The chain of command, responsible authority and work processes must be: (i) Independent from organizations promoted by the government (ii) Independent from the operators (iii) Independent from politics.
2. Transparent: (i) The decision-making process should exclude the involvement of electric power operator stakeholders. (ii) Disclosure of the decision-making process to the National Diet is a must. (iii) The committee must keep minutes of all other negotiations and meetings with promotional organizations, operators and other political organizations and disclose them to the public. (iv) The National Diet shall make the final selection of the commissioners after receiving third-party advice.
3. Professional: (i) The personnel must meet global standards. Exchange programs with overseas regulatory bodies must be promoted, and interaction and exchange of human resources must be increased. (ii) An advisory organization including knowledgeable personnel must be established. (iii) The no-return rule should be applied without exception.
4. Consolidated: The functions of the organizations, especially emergency communications, decision-making and control, should be consolidated.
5. Proactive: The organizations should keep up with the latest knowledge and technology, and undergo continuous reform activities under the supervision of the Diet.

Recommendation 6:

Reforming laws related to nuclear energy Laws concerning nuclear issues must be thoroughly reformed.

1. Existing laws should be consolidated and rewritten in order to meet global standards of safety,

public health and welfare.

2. The roles for operators and all government agencies involved in emergency response activities must be clearly defined.
3. Regular monitoring and updates must be implemented, in order to maintain the highest standards and the highest technological levels of the international nuclear community.
4. New rules must be created that oversee the backfit operations of old reactors, and set criteria to determine whether reactors should be decommissioned.

Recommendation 7:

Develop a system of independent investigation commissions

A system for appointing independent investigation committees, including experts largely from the private sector, must be developed to deal with unresolved issues, including, but not limited to, the decommissioning process of reactors, dealing with spent fuel issues, limiting accident effects and decontamination. "

In any event, the Investigation Commission has not given particulars about the nature of the said Fukushima Nuclear Power Plant and its constitution, etc.

35. On a reference to the report of the International Seminar on Nuclear Safety and Security Challenges of the 21st Century conducted by the Pakistan Nuclear Regulatory Authority with reference to the Fukushima-I Nuclear Power Plants Accidents, it is seen that the magnitude of the earthquake that took place on 11.3.2011 at about 5.43.23 A.M. was 9.0 Mw; the depth of earthquake was 32 Kms; the distance of Fukushima from epicenter is 177 Kms. It is also stated that while Fukushima-I and II were designed for tsunami of 5.7 Meters and 5.2 Meters respectively, the height of the tsunami wave was 14 Meters and 12 Meters respectively and these particulars show that the long term operation (life extension) to older nuclear power plants, needs to be reassessed and upgraded; that the layout of the plants is to be revised for better handling of emergencies; that emergency plan and physical security arrangements should be made; that disaster planning should be for multiple emergencies; and that the civil liability regime should be reassessed with regard to multiple units failure, as it was recommended in the said international seminar.

36.1. The Mission Report of the International Atomic Energy Agency Post-Fukushima accident,

which was found to be identified as earthquake hazards and tsunami hazards, has explained the lessons learned internationally, to wit it should be recognized worldwide that there is a need to consider potential maximum seismic events greater than those observed or recorded in historical time. While stating that such need was never followed in respect of the older nuclear power plants worldwide, the mission report states that the current International Atomic Agency Safety Standards establish a clear time scale as well as tectonic capacity considerations in the estimation of maximum magnitude associated with seismogenic structures making a request to the Member States to make revaluation of the existing nuclear power plants.

36.2. In the report, it was also found that in respect of tsunami which occurred on the same day in Japan, the run up height was about 14-15 Meters, well above the plant main grade, and it produced flooding, destruction and disruption of safety functions in the form of inundation, hydrodynamic forces, impact of dragged debris, deposition of sand and silt, debris, etc. It is also stated that because of the damage to SSCs (Structures, Systems and Components), mainly mechanical and electrical items, located at the water intake area, the safety functions of removal of decay heat and emergency power supply were severely affected and due to earthquake the off-site power at the plant was not available at the time of the tsunami.

36.3. The Mission with the available materials has come to the following conclusion:

"1. After the issuance of the Construction Permit about forty years ago, the Regulatory Authority did not provide any requirements or guidance regarding tsunami safety. The guidance provided in 2006 as part of the Seismic Safety Guidelines, does not contain any concrete criteria or methodology that could be used in re-evaluation. The only re-evaluation was performed in 2002 by TEPCO on a voluntary basis. Even this work was not reviewed by NISA. Therefore an effective regulatory framework was not available to provide for the tsunami safety of the NPPs through their operating life.

2. Although tsunami hazards were considered both in the site evaluation and the design of the Fukushima Dai-ichi NPP as described during the meetings and the expected tsunami height was later increased (without changing the licensing documents) after 2002, the tsunami hazard was underestimated.

3. Furthermore, considering that it was not possible to provide for a 'dry site' condition for these operating NPPs, the additional protective measures taken as result of the evaluation conducted after 2002 were not sufficient to cope with the unexpectedly higher tsunami run up values and all associated hazardous phenomena (hydrodynamic forces and debris impact). Moreover, the re-evaluation of the hazard after 2002 and the adequacy of the protective actions taken were not

reviewed by the Regulatory Authority. Because failures of SSCs when subjected to floods are generally not incremental, the plants were not able to withstand the consequences of tsunami heights greater than those expected (cliff edge effect).

4. Apparently, the tsunami warning and notification system, was not available to provide appropriate and timely response for plant reaction to the event. Japan, and JNES in particular, has developed the TIPEEZ System which was given to IAEA through EBP Tsunami for distributing to member states. This system was not used at 1F plant and the operators were not aware of the approaching tsunami waves.

5. It is recognized worldwide that Japan has a high level of expertise and also experience regarding tsunami hazard and provides leadership in this topic worldwide. This is reflected in the major influence that Japanese academic, scientific and technical institutions have on the international research and development of this topic. In this regard, the IAEA recognizes the valuable support received from JNES on tsunami safety for nuclear power plants which is transferred to Member States through the ISSC. It seems that organizational issues have prevented this expertise to be applied to practical cases at the three NPPs visited during this Mission."

36.4. Therefore, by and large, the cause for the Fukushima accident is human negligence and the choosing of the site which is close to epicenter, apart from the nature of construction put up near the seashore, as it is seen from the available records.

Chernobyl Accident:

37.1. The International Atomic Energy Agency, Vienna, while making a review of the accident at the fourth unit of the Chernobyl nuclear power station in the Ukrainian Republic of the Union of Soviet Socialist Republics on 26.4.1986, found the reason for damage was uncontrolled radioactivity driven excursion. The reason is also stated that the excursion had been made possible by the signs and magnitudes of the void and power coefficients of reactivity characteristic of the state of the reactor at that time and these have been inadvertently set up by the operators in preparation for the tests and by the effect of pump coastdown which reduced coolant flow as the test progressed. Ultimately, the reasons of the said accident were summarized as follows:

"8. To summarize, the new information has highlighted a number of broader problems contributing to the accident. These include:

A plant which fell well short of the safety standards in effect when it was designed, and even incorporated unsafe features;

Inadequate safety analysis;

Insufficient attention to independent safety review;

Operating procedures not founded satisfactorily in safety analysis;

Inadequate and ineffective exchange of important safety information both between operators and between operators and designers;

Inadequate understanding by operators of the safety aspects of their plant;

Insufficient respect on the part of the operators for the formal requirements of operational and test procedures;

An insufficiently effective regulatory regime that was unable to counter pressures for production;

A general lack of safety culture in nuclear matters, at the national level as well as locally."

37.2. It was ultimately decided that the root cause of the said accident shows that there is a need to maintain "safety culture". It was also found that the reactor designer was made without taking adequate account of safety issues involved, and the unsatisfactory physical and thermal-hydraulic characteristics of the reactor core in terms of safety were aggravated by errors made in the designs.

ATOMIC ENERGY ACT, 1962

38.1. Insofar as it relates to India, the Atomic Energy Act, 1962 enacted by the Parliament of India for the development, control and use of atomic energy for the welfare of the people of India and for other peaceful purposes and for matters connected therewith enables the Central Government to evolve a national policy for the use of atomic power in order to generate electricity either by itself or authority or Corporation established by it through atomic energy stations, as contained in Section 22(1) of the Act, which is as follows:

"Section 22. Special provisions as to electricity

(1) Notwithstanding anything contained in the Electricity (Supply) Act, 1948, the Central Government shall have authority

(a) to develop a sound and adequate national policy in regard to atomic power, to co-ordinate such policy with the Central Electricity Authority and the State Electricity Boards constituted under sections 3 and 5 respectively of that Act and other similar statutory corporations concerned with the control and utilisation of other power resources, to implement schemes for the generation of electricity in pursuance of such policy and to operate either by itself or through any authority or corporation established by it or a Government Company, atomic power stations in the manner determined by it in consultation with the Boards or Corporations concerned, with whom it shall enter into agreement regarding the supply of electricity so produced;

(b) to fix rates for and regulate the supply of electricity from atomic power stations either by itself or through any authority or corporation established by it or a Government Company in consultation with the Central Electricity Authority.

(c) to enter into arrangements with the Electricity Board of the State in which an atomic power station is situated either by itself or through any authority or corporation established by it or a Government Company, for the transmission of electricity to any other State;

Provided that in case there is a difference of opinion between the Central Government or such authority or corporation or Government Company as the case may be, and any State Electricity Board in regard to the construction of necessary transmission lines, the matter shall be referred to the Central Electricity Authority whose decision shall be binding on the parties concerned."

38.2. By an amendment brought in under the Atomic Energy (Amendment) Act, 1987, the definition of "Government Company" was incorporated as Section 1(bb), which is as follows:

"Section 1(bb) Government Company means a company in which not less than fifty one percent of the paid up share capital is held by the Central Government;"

38.3. By the same amendment, Section 3(a) of the Act was brought in which empowers not only the Central Government to produce, develop, use and dispose of atomic energy, but also stipulates that such acts can be done through any authority or Corporation established by it or a Government Company and carry out research into any matters connected therewith. Section 3(a) of the Atomic Energy Act, 1962 is as follows:

"Section 3. General powers of the Central Government:

Subject to the provisions of this Act, Central Government shall have power -

(a) to produce, develop, use and dispose of 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"

38.4. Section 27 of the Atomic Energy Act, 1962, which empowers the Central Government to delegate its powers, is as under:

"27. Delegation of powers

The Central Government may, by order, direct that any power conferred or any duty imposed on it by this Act shall, in such circumstances and subject to such conditions as may be specified in the direction, be exercised or discharged also by

(a) such officer or authority subordinate to the Central Government, or

(b) such State Government or such officer or authority subordinate to a State Government as may be specified in the direction."

INCORPORATION OF NPCIL GOVERNMENT COMPANY

39.1. It is in accordance with the powers conferred under the said amendment made in the year 1987, the NPCIL was incorporated as a Government Company on 31.8.1987 with the main objects as follows:

"1. To plan and execute an integrated programme for harnessing and developing nuclear energy for generating electricity on a commercial basis. To own, operate and manage, or to operate and manage as an agent, any type of power stations, and promote research and development, select suitable sites for nuclear power stations and ancillary facilities of every kind and description including exploration and mining of uranium or any other atomic fuel, construct, commission, operate and maintain them, coordinate their installation and operations with other organizations, ensure safe and efficient disposal of water products including spent fuel, ensure proper evacuation of power from such stations by providing for associated transmission facilities required for the purpose or otherwise and undertake all measures required therefor or incidental to any or all of the above. To exchange, distribute and sell power in accordance with the policies and objectives laid down by the Central Government from time to time.

2. To promote protection of the environment including air, land, forests and water and for this purpose to undertake all necessary activities independently or in conjunction with other agencies engaged for the same purpose. To engage in the business of purchasing, selling, importing, exporting, producing (including manufacturing of nuclear components, fabrication of atomic fuel), trading (including trading of electricity), manufacturing or otherwise dealing in all matters relating to the planning and execution of nuclear, hydro-electric, thermal, wind and other power projects using conventional or non conventional sources of electricity and associated transmission facilities and to the operation and maintenance of such power stations and ancillary facilities and to install, operate and manage all necessary plants, establishments and works."

39.2. The various other provisions of the Memorandum of Association of the NPCIL show in clear terms that NPCIL was created by the Central Government in accordance with the powers conferred under the Atomic Energy Act, 1962. Admittedly, no individual person is a shareholder and it is 100% Government owned company.

39.3. As it is seen in the Articles of Association pertaining to NPCIL, the Board of Directors and the number of Directors is determined by the President of India, which shall not be more than sixteen and less than three, consisting of persons as contemplated under Article 44, which is as follows:

"Article 44. (1) The President of India shall, from time to time, determine the number of Directors including the Chairman, which shall be not more than fourteen and not less than three; and may, inter alia, consist of :

(a) not less than six eminent persons with background of industrial management or any related discipline;

(b) the Chairman of the Central Electricity Authority set up under the Electricity(Supply) Act, 1948;

(c) a scientist or engineer from the research and development establishment of the Government ;

(d) two engineers with experience in the design, engineering, construction or operation and maintenance of nuclear power stations ;

(e) a person with experience in finance, commercial as well as administration matters."

It is seen that the Chairman is appointed by the President of India and the President of India in consultation with the Chairman appoints the Vice-Chairman of the Board; and the Directors are also appointed by the President of India in consultation with the Chairman and Vice-Chairman. It also states in Article 48 of the Articles of Association that the programmes in respect of the capital expenditure, etc., as formulated by the Board of Directors are subject to the sanction of the President of India.

39.4. In the overall background of the entire objects of the Memorandum and Articles of Association of the NPCIL, it is clear that the object, which includes the atomic fuel, are done not only as per the Atomic Energy Act, 1962 but also under the control of the Government of India and the President.

39.5. One of the other objects stated in the Memorandum of Association of the NPCIL relied upon by the learned counsel for the PUCL, namely "To act as an entrepreneur on behalf of the Central Government, to identify new areas of economic investment and to undertake or help in the undertaking of such investments in a manner not prejudicial to the Company's interest", makes it clear that the NPCIL acts only on behalf of the Government.

39.6. The contention of Ms.D.Nagasaila that in some of the clauses in the Memorandum of Association the words are used for generation electricity on commercial basis; that the Corporation is empowered to sell, import and export atomic fuel and electricity; that it can pool the profits, amalgamate with any governmental institutions or foreign investing entity; that it can enter into any business transactions or activity with the company; that it is empowered to sell, dispose of or transfer any building, etc. is subject to the provisions of the Atomic Energy Act, 1962 and Companies Act, 1956 and, therefore, the NPCIL is a commercial organization like any other government company under the Companies Act, is basically unfounded. Therefore, the contention of Ms.D.Nagasaila placing reliance on the decision in Hindustan Steel Works Constructions Ltd. v. State of Kerala and others, (1997) 5 SCC 171 is not applicable to the facts of the present case.

39.7. Inasmuch as the NPCIL has been created as per the Atomic Energy Act, 1962, it is under the control of the Government of India and the Department of Atomic Energy. The incidental powers which are exercised by the NPCIL, as a Government Company in furtherance of its objects which may be also commercial, does not mean that NPCIL is merely a commercial organization and, therefore, this scheme especially in respect of the proposal for KKNPP Units 1 and 2 should be taken only as a commercial scheme is totally baseless and opposed to the provisions of the Atomic Energy Act, 1962. Moreover, Section 27 of the Atomic Energy Act

empowers the Central Government to delegate its powers and, therefore, the NPCIL, being the project proponent however created as a government company for the purpose of imposing a corporate status, cannot be said to be a commercial agency.

EXPERT COMMITTEE REPORTS, RECOMMENDATIONS AND CLEARANCES

40. It is the case of the Union of India and is also seen by this Court that the Government of India and USSR have entered into an Inter Governmental Agreement on 20.11.1988 for construction of KKNPP. As per the said agreement, the then USSR has agreed to establish a atomic power station at Kudankulam Units 1 and 2 with its scientific experts in collaboration with the experts in India, apart from the AERB and a monetary consideration has been fixed between the governments. In the said agreement, it was agreed between the two States that the spent fuel discharged by the Atomic Energy Project in the two reactors shall be shipped safely to the Soviet Union through sea route in sealed casks.

41. Based on the said agreement entered on 20.11.1988, the Government has called for an evaluation of Kudankulam site for location of 2 x 1000 MWe VVER units at Kudankulam. The report was submitted to the Government containing the entire details relating to the Site survey stage, Site evaluation stage, and Pre-operational stage. As it is seen in the report, the purpose of site surveying is to identify one or more preferred candidate sites after both safety and non-safety considerations have been taken into account and this involves the study and investigation of a large region, rejecting unacceptable sites by systematic screening, etc. The second stage of site evaluation involves the study and investigation of one or more of the preferred candidate sites to evaluate their acceptability from various considerations, particularly from the safety norms, and the site related design bases are established and thereafter, a preliminary safety analysis report is submitted for clearance before the site construction is started. The third stage, which is the pre-operational stage, includes studies and investigations of the selected site after the start of construction and before start of operation in order to complete and refine the assessment of site characteristics and to confirm assumptions made in the safety analysis of the reactor as a part of the final safety analysis report. The baseline data on environment is also established at this stage.

42. The report also contains the consideration by the authorities about the natural hazards and the safety related aspects, like surface faulting, seismicity, suitability of subsurface material, flood, and extreme meteorological phenomena, have been exhaustively studied. In addition to that, the non-safety considerations, which include factors like electricity network, availability of cooling water, transport routes, topography, industrial support at site; and non-radiological impact on the environment, have been studied and ultimately, the Committee has observed as

follows:

"The committee has studied all site related data submitted by NPC 13,4,51 and has, in accordance with the criteria mentioned above, made a review of the suitability of the Kudankulam site for locating a nuclear power station having two units of 1000 MWe VVER reactor."

43. While considering the actions to be taken, in the Experts Committee Report, the Committee has considered that the maximum flood level should be estimated accurately considering the IAEA Safety Guide 50-SG-S10B and the revised report of CWPRS should be submitted to Design Safety Committee. It is also stated that insofar as it relates to making available of the water, which is to enhance additional reliability, intake well at Pechiparai Dam should be provided at lower elevation than the minimum draw-down level of the reservoir. It further states in Clause 3.1. (5) regarding storage of fresh water as follows:

3.1.(5) Adequate storage of fresh water for prolonged safe shutdown of the reactors is to be provided within plant boundary for safety related systems. Ground water source should be explored."

44. In respect of the designs, the Committee has recommended as follows:

"3.2. Aspects related to design

1) Radiological impact should be assessed with proper source terms and relevant dispersion characteristics of the site. Does limits prescribed should be met at a distance of 1.6 km in the event of greater exclusion radius adopted by NPC.

2) Stack height to be checked by Health Physics Division, BARC considering topography and dispersion characteristics.

3) Model studies should be taken up for intake and outfall structure for thermal pollution and recirculation.

4) Studies on Biofouling and Jelly-fish etc. that may affect the water supply should be taken up.

5) Studies on accretion/erosion rate around the plant site should be carried out. If required, proper protection should be provided.

6) Design should be engineered to meet site related design basis events.

7) Atleast two evacuation routes from plant site during an emergency should be provided"

45. Ultimately, the Committee has given its opinion that the Kudankulam site meets the major criteria for siting 2 x 1000 MWe VVER units and also recommended that the observations made and the recommendations made are to be implemented at appropriate stages.

46. While explaining about the salient features of the Kudankulam site, the said Site Evaluation Report (SER) has taken into account various aspects like topography, accessibility, construction facilities, availability of power supply and transmission lines, availability of water, which includes sea water for cooling purposes and fresh water for domestic usage, and township. That apart, in Table-2 of the SER, the Committee has taken note of the site characteristics in the safety point of view during the natural events like coastal erosion, flood, tsunami, wind storm and cyclone, slope instability, soil liquefaction, seismotectonic environment.

47. The study has been made based on the AERB Guidelines and in respect of Spent Fuel it states that it can be stored for five years after adequate cooling inside the pool; and that 50 Tons of Spent Fuel assumed to be discharged from two reactors will be shipped safely to Soviet Unit. That apart, the report also contains the Emergency Preparedness considerations and other statutory requirements like the Pollution Control Board approval and the MoEF, Government of India.

48. The Department of Environment and Forests, Government of Tamil Nadu has granted clearance on 26.12.1988 for installation of the plant at Kudankulam. Subsequently, the Government in the modified letter dated 13.2.1989, specified various conditions as per the annexure to the said letter and some of the conditions are that the reactor structures are to be located in seismic zone I and II as stipulated in ISI 1893 of 1981 and the design of structures is to be evaluated as required under the International Atomic Energy Agency; that once-through cooling system is proposed to be adopted for condenser cooling and the cooling water shall be disposed off into the sea after satisfying the standards prescribed by the TNPCCB; that the activities should have least interference with the flora and fauna as well as the marine biology; that suitable arrangements must be made to maintain temperature gradient of 6°C between cooling water and the receiving body (sea) so that the fish life shall not be affected that solid waste generated from the Spent Fuel shall be stored in pool of water in Spent Fuel storage bay of suitable detention period till it is transported; that it must be ensured that the activity of the unit shall have least interference with the aquatic environment as well as fishing in that area; that the fishermen at Idinthakarai, Koothakuzhi shall be suitably rehabilitated on identification; and that

fresh water shall be drawn from Pechiparai reservoir through pipelines.

49. It is also relevant to note that at the time when the said clearance was issued by the Government for installation of nuclear power plant at Kudankulam, namely in 1988-1989, it was the Environment (Protection) Act, 1986 and the Environment (Protection) Rules, 1986 that were occupying the field relating to environmental law, which was intended to provide protection and improvement of environment, including water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property. The Central Government has been empowered to take measures to protect and improve environment and to prescribe the standards for the quality of air, water, or soil in its various aspects; for emission or discharge of environmental pollutants from various sources; handling of hazardous substances; prohibition and restriction of areas in which any industries, operations; procedures and safeguards for the prevention of accidents which may cause environmental pollution and remedial measures for such accidents. The Environment (Protection) Act, 1986 also contemplates the Central Government by official gazette to establish one or more environmental laboratories and also notify the functions of the laboratories. In the Rules framed under the said Act in the same year, the various procedures have also been stipulated, including the functions of the environmental laboratories to evolve standardized measures for sampling and analysing of various types of environmental pollutants, to carry on investigations, etc.

50. It was in the light of the then existing law, the clearance has been granted. At that time, there was no statutory stipulations prohibiting the construction within 500 Meters of the High Tide Line (HTL), except a communication by the then Prime Minister of India to all Chief Ministers stated to have been effected in November, 1981 stating that no activity should be allowed within 500 Meters of the HTL in order to maintain the beauty and ecological integrity of the nation's beaches. However, the then Hon'ble Prime Minister on 19.4.1989 has approved that an exemption of 500 Meter norm may be allowed specifically for KKNPP subject to MoEF prescribing and ensuring sufficient safeguards for preserving the ecology of the beach. The letter dated 19.4.1989 reads as follows:

"Ministry of Environment & Forests may please refer to the notes No.4/1(5)/88-PP/C-12/89, dated March 1, 1989 to PM from Secretary, Department of Atomic Energy and their d.o. Letter No.J-14011/1/88-IA dated March 27, 1989 to Principal Secretary to PM from Secretary, Environment & Forests regarding relaxation in respect of the proposed Atomic Nuclear Power Project at Kudankulam, of the guidelines that the coastal beaches should be kept clear from all building activities upto 500 meters from the water level at the maximum high tide.

2. PM has approved that an exemption of the 500-metre norm may be allowed specifically for the Kundankulam Project subject to the Ministry of Environment & Forests prescribing and ensuring sufficient safeguards for preserving the ecology of the beach.

3. Regarding the proposal for setting up of a Committee for educating local people about the project, the matter may be handled by the State Govt. and by the concerned Department. PM's directive on this does not seem to be required."

51. Even though there was no necessity as per the then existing law for obtaining any exemption for putting up the KKNPP within 500 Meters of HTL, when the NPCIL has sent the proposal to the MoEF for its approval, the MoEF in the communication dated 9.5.1989 has granted approval subject to various conditions, which includes:

"(i) Special exemption from the present ban on undertaking any construction within 500 metres from high tide line (HTL) is accorded to this project subject to the condition that (a) in such area only the plant and essential associated structures may be put up and nothing else should come up in this area; (b) attempts should be made to keep such construction within 500 metres of high tide line as far away from high tide line as possible; (c) adequate measures and environmental safeguards will be taken for ensuring preservation of the ecology of the beach; (d) since this area has been declared as a bio-sphere reserve, the project authorities should take special precautions to avoid any damage to the coral reefs or changes in the water quality near the shore; and (3) an Environmental Management Plan (EMP) for the area upto 500 metres from HTL should be submitted to this Ministry for review.

(ii) The temperature of the condenser water should not exceed 50C over and above the ambient temperature of the water at the point of discharging in the sea."

In the said conditions, while granting exemption in respect of the construction within 500 Meters of HTL, the MoEF has stated that the temperature of the condenser water (coolant water) shall not exceed 50C over and above the ambient temperature of the water at the point of discharge in the sea.

52. It is true that while in the clearance of the Government of Tamil Nadu dated 13.2.1989 modifying the earlier clearance dated 26.12.1988, the Government of Tamil Nadu has stipulated to maintain the temperature gradient of 60C, the MoEF, Government of India in the approval dated 9.5.1989 has stated that the temperature should not exceed 50C over and above the ambient temperature of the water at the point of discharge in the sea. The said order of the MoEF, Government of India also states that the conditions may be varied or new conditions may

be imposed in the interest of environmental protection.

53. The AERB based on a letter from the NPCIL has also granted clearance on 10.11.1989 for locating two VVERs of 1000 MWe capacity each at Kudankulam site. The annexures to the said clearance emphasizes that all the clearances from the State authorities are to be obtained; that the AERB on inspection found that Vairavikinaru quarry, Idinthikarai and Kudankulam settlements are beyond 2 Kms. distance but within sterilized zone and therefore, suitable legislative and administrative control measures should be taken through State authorities to prevent increase in population within the sterilized zone; that adequate quantities of water should be provided to meet the make up requirements of uninterrupted cooling of core and other safety related uninterrupted cooling of core and other safety related systems on a long term basis; that the facilities engineered at site should meet the requirements even in the event of possible disruption of piped water supply from Pechiparai Dam; that in the unlikely event of the breach of the dam alternative sources of water supply should be available for the site within a reasonable time; that as per the estimate of Health Physics Division, the Maximum Flood Level (MFL) should be +7.5 M after considering a return period of 1000 years from the maximum storm and this was reviewed against the estimated figure of 5.9 M given by the CWPRS; that the MFL must be reevaluated by CWPRS confirming with the requirements of IAEA Safety Guide 50-SG-S10B on "Flooding on Coastal Sites"; that Environmental Survey Laboratory should be set up at site and instruments are to be installed at site to collect meteorological data and background radiation; and that two evacuation routes from plant site during an emergency should be provided. It has to be understood that, as stated above, the conditions are all based on the then existing Environment (Protection) Act, 1986, which also contemplates the constitution of Environmental Survey Laboratory.

54. It is also not in dispute that at the time of these clearances issued by the various authorities, including the MoEF, Government of India, AERB, and the Government of Tamil Nadu, there was neither Coastal Regulation Zone restriction, nor any statutory notification for conducting public hearing by the MoEF before granting any environmental clearance. The Government of India has issued a notification dated 19.2.1991 under the Environment (Protection) Act, 1986 declaring coastal stretches as Coastal Regulation Zone (CRZ) and regulating the activities in the said zone. It is seen that before issuing the said notification, the Government has made a publication on 15.12.1990 calling for objections against such declaration and it was after considering all these objections, the Government of India has issued the notification dated 19.2.1991. It was under that notification the Government of India has declared the coastal stretches up to 500 Meters from the High Tide Line and stated that with effect from the said notification, the restriction has been imposed on the setting up and expansion of industries, operations of processes, etc. in the Coastal Regulation Zone (CRZ). The relevant portion is as

follows:

"Now, therefore, in exercise of the powers conferred by Clause (d) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986, and all other powers vesting in its behalf, the Central Government hereby declares the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action (in the landward side) upto 500 metres from the High Tide Line (HTL) and the land between the Low Tide Line (LTL) and the HTL as Coastal Regulation Zone; and imposes with effect from the date of this Notification, the following restrictions on the setting up and expansion of industries, operations or processes, etc. in the said Coastal Regulation Zone (CRZ)."

(emphasis supplied)

It is very clearly stated in the said notification that the same comes into effect from the date of the notification, namely 19.2.1991.

55. The prohibited activities have been specified in Clause (2), which include setting up of new industries and expansion of existing industries, except those directly related to water front or directly needing foreshore facilities, as it is seen in Clause 2(i), which is as follows:

"2. Prohibited Activities: The following activities are declared as prohibited within the Coastal Regulation Zone, namely:

(i) setting up of new industries and expansion of existing industries, except those directly related to water front or directly needing foreshore facilities."

56. In Clause (3) which speaks about the regulation of permissible activities, it is stated that in respect of the thermal power stations (only foreshore facilities for transport of raw materials facilities for in-take of cooling water and outfall for discharge of treated waste water/cooling water) environmental clearance from the MoEF, Government of India is required. In this regard, it is relevant to extract Clause 3(2) of the notification, which is as follows:

"3. Regulation of Permissible Activities: All other activities, except those prohibited in para 2 above, will be regulated as under:

(1) ***

(2) The following activities will require environmental clearance from the Ministry of Environment

and Forests, Government of India, namely:

(i) Construction activities related to Defence requirements for which foreshore facilities are essential (e.g. Slip-ways, jetties, etc.); except for classified operational component of defence projects for which a separate procedure shall be followed. (Residential buildings, office buildings, hospital complexes, workshops shall not come within the definition of operational requirements except in very special cases and hence shall not normally be permitted in the CRZ);

(ii) Operational constructions for ports and harbours and light houses requiring water frontage; jetties, wharves, quays and slip-ways, etc. (Residential buildings & office buildings shall not come within the definition of operational activities except in very special cases and hence shall not normally be permitted in the CRZ);

(iii) Thermal Power Plants (only foreshore facilities for transport of raw materials facilities for intake of cooling water and outfall for discharge of treated waste water/cooling water); and

(iv) All other activities with investment exceeding rupees five crores."

Subsequently, various other notifications were issued by the Government of India. It must be noted that in respect of the activity commenced before the said notification and in the absence of any other notification before that framed by the Government of India under the Environment (Protection) Rules, 1986, the approval given by the Government of India and other authorities like the State Government as well as the AERB, etc. are valid and they do not require any fresh approval. In any event, insofar as it relates to the atomic energy project, the power of superintendence by various authorities, including the Government of India, AERB, Department of Atomic Energy, and TNPCB are a continuous process.

57. The Government of India, MoEF has also issued the Environmental Impact Assessment Notification, 1994 dated 27.1.1994 on Environmental Impact Assessment of Development Projects. That was also issued as per Rule 5(3)(a) of the Environment (Protection) Rules, 1986. In fact, the Government has called for objections even before, namely on 28.1.1993, by making publication and thereafter made the Environmental Impact Assessment Notification, 1994 directing that any expansion or modernization of any activity (if pollution load is to exceed the existing one) shall not be undertaken unless it has been accorded environmental clearance from the Central Government. The said notification makes it abundantly clear that the restriction comes into effect on and from the date of the publication. The relevant portion of the said notification in this regard is as follows:

"Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby directs that on and from the date of publication of this notification in the Official Gazette, expansion or modernization of any activity (if pollution load is to exceed the existing one), or a new project listed in Schedule I to this notification, shall not be undertaken in any part of India unless it has been accorded environmental clearance by the Central Government in accordance with the procedure hereinafter specified in this notification."

(emphasis supplied)

58. Under the said Environmental Impact Assessment Notification, 1994, any clearance given by the Government of India is valid for a period of five years for the commencement of construction or operation of the project. The relevant clause is as under:

"The clearance granted shall be valid for a period of five years for commencement of the construction or operation of the project."

59. As it is seen in Schedule I, "Nuclear Power and related projects such as Heavy Water Plants, nuclear fuel complex, rare earth" is stated as Item (1) requiring clearance from the Central Government. Schedule IV of the said Environmental Impact Assessment Notification also contemplates public hearing before such application is made for environmental clearance and it also contemplates the procedure for the State Pollution Control Board to conduct enquiry by giving notice to all persons likely to be affected and also composition of public hearing panel, etc. It is relevant to extract Schedule-IV, which is as follows:

"(1) Process of Public Hearing: - Whoever apply for environmental clearance of projects, shall submit to the concerned State Pollution Control Board twenty sets of the following documents namely: -

(i) An executive summary containing the salient features of the project both in English as well as local language.

(ii) Form XIII prescribed under Water (Prevention and Control of Pollution) Rules, 1975 where discharge of sewage, trade effluents, treatment of water in any form, is required.

(iii) Form I prescribed under Air (Prevention and Control of Pollution) Under Territory Rules,

1983 where discharge of emissions are involved in any process, operation or industry.

(iv) Any other information or document which is necessary in the opinion of the Board for their final disposal of the application.

(2) Notice of Public Hearing: -

(i) The State Pollution Control Board shall cause a notice for environmental public hearing which shall be published in at least two newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned. State Pollution Control Board shall mention the date, time and place of public hearing. Suggestions, views, comments and objections of the public shall be invited within thirty days from the date of publication of the notification.

(ii) All persons including bona fide residents, environmental groups and others located at the project site/sites of displacement/sites likely to be affected can participate in the public hearing. They can also make oral/written suggestions to the State Pollution Control Board.

Explanation: - For the purpose of the paragraph person means: -

(a) any person who is likely to be affected by the grant of environmental clearance;

(b) any person who owns or has control over the project with respect to which an application has been submitted for environmental clearance;

(c) any association of persons whether incorporated or not like to be affected by the project and/or functioning in the field of environment;

(d) any local authority within any part of whose local limits is within the neighbourhood, wherein the project is proposed to be located.

(3) Composition of public hearing panel:- The composition of Public Hearing Panel may consist of the following, namely: -

(i) Representative of State Pollution Control Board;

(ii) District Collector or his nominee;

- (iii) Representative of State Government dealing with the subject;
- (iv) Representative of Department of the State Government dealing with Environment;
- (v) Not more than three representatives of the local bodies such as Municipalities or panchayats;
- (vi) Not more than three senior citizens of the area nominated by the District Collector.

(4) Access to the Executive Summary and Environmental Impact Assessment Report: - The concerned persons shall be provided access to the Executive Summary and Environmental Impact Assessment report of the project at the following places, namely: -

- (i) District Collector Office;
- (ii) District Industry Centre;
- (iii) In the Office of the Chief Executive Officers of Zila Praishad or Commissioner of the Municipal Corporation/Local body as the case may be;
- (iv) In the head office of the concerned State Pollution Control Board and its concerned Regional Office.
- (v) In the concerned Department of the State Government dealing with the subject of environment."

Schedule-IV being in continuation of the principal notification dated 27.1.1994 is effective from 27.1.1994. The Explanatory Note Regarding the Impact Assessment notification dated 27.1.1994 states "a project proponent is required to seek environmental clearance for a proposed expansion/modernisation activity if the resultant pollution load is to exceed the existing levels. The words "pollution Load" will in this context cover emissions, liquid effluents and solid or semi-solid wastes generated." In the said explanatory note, it is also made clear in respect of the "concerned parties or environmental groups" as follows:

"3. Clarification about concerned parties or environmental groups.

The concerned parties or environmental groups will be the bonafide residents located at or around the project site or site of displacement or site of alleged adverse environmental impact."

In Clause (8) of the explanatory note, the Government of India exempts the projects already initiated which are listed in Schedule-I and the said clause is as follows:

"8. Exemption for projects already initiated

For projects listed in Schedule-I to the Notification in respect of which the required land has been acquired and all relevant clearances of the State Government including NOC from the respective State Pollution Control Boards have been obtained before 27th January, 1994, a project proponent will not be required to seek environmental clearance from the IAA. However those units who have not as yet commenced production will inform the IAA."

60. In the meantime, due to disintegration of USSR, a Supplemental Agreement was entered into between the Government of India and Russia, which was formed out of disintegration on 21.6.1998. A reference to the contents of the said agreement placed before this Court also shows that except continuing the earlier agreement dated 20.11.1988, for which the newly formed Russia has given its continuous approval, there is one change relating to the shipping of Spent Fuel to USSR, as agreed under the earlier agreement dated 20.11.1988, and the Government now has agreed to retain safely Spent Fuel for its own purposes and that apart, there have been some minor changes relating to consideration and some other activities, and except the above said difference, there is no much difference between the 20.11.1988 agreement and the Supplemental Agreement dated 21.6.1998. On going through both the agreements, we are fully satisfied that the Supplemental Agreement cannot be said to be a fresh agreement between India and Russia.

61. After the said Supplemental Agreement was entered on 21.6.1998, the Government of India, MoEF, taking note of the various communications of NPCIL as well as the TNPCB and considering the chronology of events and having satisfied on the visit made by the officials of the Government of India on 31.8.2001 that the conditions stipulated in the environmental clearance issued by the Ministry on 9.5.1989 have been implemented both in the construction activities as well as other stipulations, including the Environmental and Health Research Centre, Recovery Officer Plant, etc. are in progress and that afforestation programme is undertaken by the M.S.Swaminathan Research Foundation for introduction of crop varieties with greater tolerance to salinity and enhancement of soil fertility and crop productivity and after discussions on the site and taking note of the details of the expenditure submitted by the NPCIL for the KKNPP, the Government of India has stated that inasmuch as the steps have already been taken to implement the project, the environmental clearance issued in May, 1989 stands valid and there is no need to conduct public hearing and seek fresh environmental clearance. The Government of India however stipulated that strict compliance of the terms and conditions of the

environmental clearance must be made and the progress of the project must be regularly submitted to the Ministry for monitoring purposes. A copy of the said letter addressed to NPCIL has also been marked to the TNPCB as well as the Tahsildar, Revenue Department, Radhapuram.

62. The National Environmental Engineering Research Institute (NEERI), being an expert body, having analysed the proposal of the NPCIL, made Environmental Impact Assessment studies and prepared a Comprehensive Environmental Impact Assessment of Nuclear Power Plant (Units 1 and 2), Kudankulam in January, 2003. The report submitted by the NEERI, which no doubt relates to Units 1 and 2, makes a thorough study about the various data collected regarding air environment, noise environment, water environment, land environment, biological environment, and socio-economic environment. The said report has also found that the total installed capacity in the country for generating electricity is about 51,000 MWe, which includes 65% thermal, 32% hydro and 3% nuclear power and oil is used as an auxiliary fuel on a small scale. It is stated that by the year 2020, the total nuclear power generating capacity is expected to reach 1,25,000 MWe out of which nuclear power is expected to contribute around 10% of the total requirements.

63. In the report of the NEERI, it is stated that the rise in temperature at the discharge point in the sea is expected to be around 7°C, which meets the statutory requirement notified by the MoEF. With regard to the site at Kudankulam, the report states that the population within 1.6 Kms exclusion zone is nil and therefore there is no necessity for rehabilitation of people. It is also stated that an area of 2 Km radius around the reactor is to be acquired, which is to the extent of 1050 Ha. It is also stated that the area of about 165 Ha. at a distance of about 6 to 7 Km from the proposed plant is to be acquired for township.

64. It is seen that in October, 2001, the AERB has also given clearance for excavation, subject to the compliance of stipulations like restriction on surface mining of limestone within Exclusion Zone and Sterilized Zone and design of embankment for water storage reservoir as ultimate heat sink.

65. The NPCIL has applied for consent to establish on 30.12.2001 when the TNPCB by its notice dated 11.10.2001 has informed the NPCIL that on visit it was found that NPCIL was putting up construction without obtaining consent to establish order and ultimately, the TNPCB has also given its consent to establish on 25.2.2004, both under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 and the same is subject to certain conditions to be fulfilled. Admittedly, based on the earlier clearance given by the State dated 13.2.1989, the NPCIL has started various activities and

construction activities have also been done and in the said consent to establish given by the TNPCB dated 25.2.2004, it is stated that the consent to operate will be given on satisfactory compliance of various general and special conditions.

ISSUES RAISED & CONSIDERATION

66. The major issue that has been raised by the writ petitioner in W.P.Nos.24770 of 2011 and 8262 of 2012 is that when once the Government of India has entered a subsequent agreement with Russia on 21.6.1998, it is deemed to be a new agreement and the KKNPP Units 1 and 2 should be treated as new units and by that time, by virtue of the notifications issued by the Government of India, it has become mandatory to have a public hearing and such public hearing has not been afforded.

67. The next objection is that by virtue of the subsequent agreement, there is a change in the project component and, therefore, it should be considered as a modernization and expansion of the original project in respect of Units 1 and 2 and if so, it requires fresh environmental clearance from the Government of India, MoEF. It is also his submission that when originally for the purpose of water supply the project component wanted to draw water from Pechiparai Dam, which is not continued, and now a desalination plant is being contemplated, it would be a new project and it requires fresh clearance from various authorities.

68. That apart, it is the contention of Ms.D.Nagasaila and Mr.T.Mohan that since in the meantime the Coastal Regulation Zone notification has been issued in the year 1991, which is after the second agreement with Russia on 21.6.1998, the constitution and erection of the plant within 500 Meters of the High Tide Line is prohibited and therefore the very project is not to be continued without exemption or clearance from the Government of India.

69. As we have stated earlier, on a reference to the two Inter-Governmental Agreements dated 20.11.1988 between Indian and USSR and dated 21.6.1998 between India and Russia, there is no major change in the agreement. In fact, the subsequent agreement dated 21.6.1998 is stated as a supplemental agreement and technically it is for the purpose of newly formed Russia to continue all acts as per the earlier undertaking given under the agreement dated 20.11.1988 and, therefore, first of all, we have no hesitation to hold that there is no change in the agreement and it cannot be said that the project started pursuant to the agreement dated 20.11.1988 should be treated as abandoned and the project should be treated as a new project by a subsequent agreement dated 21.6.1998, so as to enable the fresh undergoing of the process of clearances.

70. Inasmuch as it is the admitted case of all the parties concerned that as per the agreement dated 20.11.1988 the NPCIL, which was constituted as per the Atomic Energy Act, 1962, has proceeded with the project after the proposal and thorough study and obtaining clearances which are required as per the then existing law, namely the Environment (Protection) Act, 1986, and clearances from the State Government for the purpose of proceeding, of course subject to the conditions of clearance from the AERB, clearance from the MoEF subject to conditions and therefore, in our considered view, the subsequent notifications issued by the Government does not apply. As enumerated above, the wordings of the notifications are explicitly clear that they are applicable only from the date of their issuance. While so, in respect of an existing project, which has already commenced and the operation has not been effected so far, one cannot say that those notifications are applicable and, therefore, the fresh clearance should be obtained.

71. The further contention as if it is a modernized project is totally baseless. Even a reference to the original report of the evaluations shows that the project contemplated even in the year 1988 is relating to 2 x 1000 MWe VVER nuclear power plant and there is no change regarding the same even as on date and, therefore, the contention as if there is modernization, in our considered opinion, has no meaning. This apprehension appears to have arisen due to Fukushima accident.

72. It is no doubt true that it is the duty of the Government and other official respondents to take note of the unfortunate event that has happened due to human negligence and rectify the same and in fact, the AERB as well as the MoEF have taken note of the post-Fukushima concept and made a thorough study not only by itself which consists of experts, but also through other agencies like NEERI, M.S.Swaminathan Research Foundation and others, who have in categoric terms held that insofar as it relates to the safety of the KKNPP Units 1 and 2, the apprehension is unfounded. When that is so and the experts in the field have given concrete opinion more than once, it is not for this Court to substitute its own view simply because there is a fear after the Fukushima accident. In projects of this nature there is certainly a public fear involved. Simply because there is a remote possibility of happening of an event, it does not mean that the very project becomes useless. Taking note of the fact that the requirement of electricity in this country is of utmost importance and the country is lagging behind in electricity production because of the failure of various other aspects like windmill energy, coal energy, etc., when the Government, as a matter of policy, has taken a decision, of course, based on the compliance of various safety regulations for implementing the nuclear energy project for useful purposes, which is permissible under the Atomic Energy Act, 1962, it is not for this Court to substitute its own view. Interference by the Court in the policy decisions which are of basic importance and public importance for the benefit of the public is opposed to the public interest itself.

73. As correctly submitted by Mr.Mohan Parasaran, learned Additional Solicitor General, there is no question of post-facto clearance. When once a project has already been started, we do not understand as to what purpose the public hearing will serve in respect of an existing project. The project has come to the major shape after spending enormous amount from and out of the exchequer making thorough study about the entire aspect. In such a situation, in our considered view, public hearing can at the most be for the purpose of rectification of possible defects and not for the purpose of abandonment of the project. In this view of the matter, we totally disapprove the contention raised by M/s.D.Nagasaila and T.Mohan opposing the project itself.

74. As rightly submitted by Mr.M.Radhakrishnan, a citizen has got every right to know that the requirements of law have been fulfilled. As stated above, on the facts and circumstances of the case, when once the Units 1 and 2 have been proposed to be established, the authorities contemplated at that time, including the Government of Tamil Nadu, Government of India, MoEF, and AERB, have given their due clearance, of course subject to various conditions. Insofar as it relates to the compliance of such conditions, we do not see any deviation by the NPCIL. There is absolutely no necessity for the NPCIL to deviate from the conditions, since it is not a commercial organization, as we have stated earlier. In effect, even though it is called a "Government Company" it is only for the purpose of giving a corporate status such registration has a government company has been made and it does not mean that it ceases to be a government, more particularly when it performs the functions as per the Atomic Energy Act directly under the control of the President of India, which is the Chief Executive Officer of the Government of India, the apprehension that the conditions are not followed, in our considered view, is totally unfounded.

75. Insofar as it relates to the technical aspects of the project, we have to reiterate that when major study has been done, as it is seen in the voluminous reports of various authorities like AERB, MoEF, Environmental Impact Assessment, it is not known as to how this Court can substitute its own view, for the reason that this Court is neither an expert nor competent to make a scientific study or recommendation, when once prima facie we are satisfied that the safety measures have been adequately taken.

76. Insofar as it relates to the contention that in the original report there is a statement that the water shall be drawn from Pechipari Dam and that has been subsequently changed to putting up a desalination plant near the KKNPP site itself, we do not think that this will amount to modernization or change of the project. The project is based on the production of 2 x 1000 MWe VVERs and so long as that continues, in our considered view, any other secondary requirement, for which the Government or the TNPCB introduces a method which is more congenial for the

implementation of the major project, cannot be said to be either modernization or a changed project for the purpose of making it obligatory for the NPCIL to follow the procedure of getting clearance once again from the various authorities. Moreover, the water which was sought to be drawn from Pechiparai dam was only potable water and not for the purpose of using in the nuclear project. For the nuclear project the water required is only sea water. The sea water in large quantity enters into the plant, wherein the coolant temperature is maintained at 70C and after production of energy, the water is again sent back to the sea and the only requirement is that the sea water temperature at the time when it is discharged out should be maintained at the ambient temperature. Therefore, there is no question of using potable water for the purpose of production of electricity through the nuclear plant. The potable water is only for drinking purposes and the said potable water is not connected with the project. While so, the construction of desalination plant for the purpose of potable water is no way connected with the project and the question of inclusion of desalination plant for modernization process is totally unacceptable.

77. In respect of the coolant temperature, no doubt we see that originally it was stated as 50C, which became 60C in the report of the AERB and it has become 70C now and that is sought to be explained by the learned Advocate General appearing for the TNPCB as well as Mr. Mohan Parasaran, learned Additional Solicitor General by stating that the coolant temperature varies from time to time and this natural variation cannot be constant at all times and it is for the competent authorities to decide about the temperature based on the surrounding circumstances and that can never be said to be a change in the project and that cannot by itself be said to be due to non application of mind. In our considered view, when the change in coolant temperature, which is required to be maintained for the purpose of getting the atomic projects intact is a necessary ingredient, it is not for this Court to interfere and say that simply because there is a change as required by the expert body, the project itself should be abandoned. In any event, insofar as the maintaining of the ambient temperature of sea water is concerned, we are conscious of the fact that the purpose of keeping ambient temperature is for the betterment of bio-diversity and flora and fauna of the sea and when that ambient temperature, which is stated to be normal between 23 to 280C, which may slightly vary to one or two degrees more, has to be necessary kept intact and when the sea water is discharged after mixing with 5/6/70C of coolant temperature at the point of discharge the ambient temperature has to be maintained and the temperature at the point of discharge cannot be more than 350C and if that will not affect the flora and fauna, it is not for this Court to say otherwise. In any event, as submitted by the learned Advocate General, the consent to operate will be issued only subject to such conditions. In fact, such conditions are already available in various reports of the experts bodies like AERB, MoEF and Government of India, and we hope that the TNPCB will ensure compliance of such condition and act in consonance with the said reports and pass orders while granting consent to operate.

78.1. It is relevant to point out at this stage that when post-Fukushima incident has created a fear in the mind of the people, which is natural, and the same was exploited by certain group of people, the Government of Tamil Nadu, at the instance of the Hon'ble Chief Minister has appointed an Expert Committee presided by the Former President of the Atomic Energy Commission Prof. M.R.Srinivasan along with three members Dr.D.Arivuoli, Professor, Department of Physics, Anna University; Dr.S.Iniyan (Convener), Professor and Director, Institute for Energy Studies, Anna University; and Mr.L.N.Vijayaraghavan, I.A.S. (Retired), Chief Secretary Grade, and in fact they have submitted a report dated 27.2.2012. The Expert Committee has stated that the reactor is enclosed in a pre-stressed building that can withstand a high internal pressure and this is enclosed in a secondary reinforced concrete building which can withstand external shocks or even an impact of an aeroplane or a missile and there is a spray system which can cool the space in the inner containment and bring the pressure down, in case of a pressure build up and there are 154 passive hydrogen re-combiners at various locations in the inner containment and if hydrogen is released, it will get converted to water without any intervention of an operator or any need for any external power.

78.2. While speaking about the safety features of KKNPP, the report significantly states as follows:

"There is yet another passive safety feature which provides cooling to the nuclear fuel without the need for operator action or power supply. This is called Passive Heat Removal System. This consists of a series of air coolers (rather like motor car radiators) installed at a greater height outside the secondary reactor building in an annular arrangement. Hot water and steam from the steam generators will flow into these coolers and after rejecting heat to the surrounding air, will become cool. The cold water being heavier will flow down by gravity to the steam generator. This is called thermo siphon effect and is a purely passive process. The Indian safety authorities insisted on this feature to be incorporated in the design. The KKNPP is the first plant to adopt this novel safety feature."

78.3. Regarding earthquakes and safety, the report states that "the most intense earthquake in the neighbourhood of Koodankulam is the one on 8 February, 1900 near Coimbatore (307 Km away) which had intensity of 6 on the Richter scale. Koodankulam plant is designed to withstand a higher intensity earthquake. Some low intensity tremors have occurred in South India in recent times and the plant has been unaffected by them."

78.4. While comparing the Kudankulam with Fukushima, the Experts Committee appointed by the State Government has observed as follows:

(a) Earthquakes that could strike Koodankulam are many thousand times weaker than what struck Fukushima coast (Richter 6 Scale compared to Richter 9 Scale)

(b) The tsunami-genic earthquakes are located about 1300 Kms from Koodankulam compared to 130 Kms in case of Fukushima. The long travel distance in case of Koodankulam will reduce the tsunami intensity very substantially.

(c) The double containment at Koodankulam can withstand high internal pressures and external impacts unlike at Fukushima.

(d) The cooling of nuclear fuel is assured in many ways including several passive cooling features which did not exist at Fukushima.

(e) Hydrogen explosion is prevented because of provision of passive hydrogen re-combiners which were not provided at Fukushima.

(f) Four diesel generators are provided at KKNPP for each reactor to shut down safely when in fact one generator would suffice. They are also located at high elevations safe from flooding risk. In contrast, at Fukushima the diesel generators got submerged due to the tsunami wave and there was no power available to keep the reactors cool.

(g) The KKNPP design belongs to Generation III Plus whereas Fukushima belongs to First Generation."

The conclusion in this regard arrived at by the Experts Committee is as follows:

(a) A Fukushima type accident is most unlikely as Koodankulam region has no history of strong earthquakes or high tsunami.

(b) The safety features are such that even under serious adverse conditions due to external factors, the reactor is shut down safely and the nuclear fuel cooled adequately. The station can be restored to service after the adverse condition has passed, following normal inspections and adjustments.

(c) Even under extreme external conditions or a combination thereof, the nuclear fuel, were it to melt, is entrapped in the core catcher and rendered inactive. Therefore there will be no adverse effect on the health of the people living in the neighboring villages."

The Expert Committee categorically stated that historically never a big earthquake or tsunami has occurred in Kudankulam area; that for the purpose of allaying the fear in the mind of the people living in and around Kudankulam, the Government both Central and State, have taken enormous efforts and safety measures and, therefore, it is high time that the Government must take appropriate steps for the purpose of starting production in the interest of obtaining more electric power.

78.5. In fact, the Expert Committee has also given some of the suggestions, namely: (i) that appropriate action must be taken by the Government, through the Collector and other agencies, for infusing confidence and awareness in the minds of the people; (ii) that rehabilitatory measures must be taken for the benefit of the local fishermen who use to take their boats to Nagercoil for the purpose of repair and proper steps must be taken for the purpose of facilitating repairs in the local area itself; and (iii) that for the purpose of enabling the fishermen to retain their fish and sell the same, cold storage units must be created. A reference to the Experts Committee report shows that various persons belonging to PMANE Group, including Dr.S.P.Udayakumar, and the district administration, including the District Collector, and experts were present during the visit made by the Experts Committee. There is absolutely no reason to disbelieve the report of the Expert Committee appointed by the State Government.

79.1. It also relevant to note that PUCL has approached this Court almost at the time when the arguments were completed. Moreover, the project has been in public debate for more than 20 years and steps have been taken by the NPCIL and, therefore, PUCL, which is an association, cannot claim to be unaware of these proceedings. Neither the writ petitioners opposing the project nor the PUCL have chosen to challenge any of the site clearances or other clearances issued. The contention of Mr.M.Radhakrishnan, Mr.G.Rajagopal, Senior Counsel and Ms.D.Nagasaila is that the public is entitled to know about the manner in which the Spent Fuel is going to be preserved or disposed of.

79.2. Per contra, it is the contention of the learned Additional Solicitor General of India that by the Supplemental Agreement dated 21.6.1998, the Government of India has sustained its bargaining power by retaining the Spent Fuel, which cannot be said to be totally useless, but is useful for other purposes by the Government. It is submitted that the only requirement is that the same has to be preserved and used without causing any health hazard to anyone. As it is seen in various reports, such Spent Fuel can be kept under the cold atmosphere in the water for fairly long number of years before either using or disposing of the same and also it is stated that steps will be taken at the appropriate time for the purpose of preparing a scientific method of using the Spent Fuel. The contention that people are entitled to know whether Spent Fuel is going to be

stored is controverted by the learned Additional Solicitor General stating that such materials cannot be revealed, since it is a matter of national importance and there is a possibility of any person having knowledge about the whereabouts of the Spent Fuel stored to effect any manipulation, which will be totally opposed to the public interest.

79.3. In such circumstances, it is clarified that the Government shall take appropriate protective measures for the purpose of retaining the Spent Fuel in appropriate manner, if necessary by using the same by appropriate process, and ensure that the emanation from the same does not result in health hazards to the people in the area.

80. As submitted by the learned Additional Solicitor General of India, a public interest litigation has been filed in the Supreme Court in Common Cause, through its Director, and others v. The Union of India, through its Secretary, Department of Atomic Energy, Mumbai and others, in W.P.(Civil) No.464 of 2011 in respect of the atomic projects in India and also for taking safety measures with the following prayers:

"a. Direct that an expert body, which is independent of the government and the nuclear establishment, conduct a thorough safety reassessment of all existing and proposed nuclear facilities in the country and of all the mining facilities of uranium and other nuclear fuel in the country.

b. Direct such an expert independent body to conduct a thorough health and safety review of the uranium mining regions in the country.

c. Direct an independent expert body to conduct a thorough cost-benefit analysis of all proposed nuclear facilities and a thorough comparative cost-benefit analysis vis-à-vis other sources of energy.

d. Direct the Union of India to set-up an expert nuclear regulator, independent of the government.

e. Declare the Civil Liability for Nuclear Damage Act, 2010 as unconstitutional and void ab initio.

f. Declare that in the case of a nuclear accident, all nuclear operators and nuclear suppliers, would be jointly & severally, and absolutely liable for civil damages, and their financial liability would be unlimited.

g. Issue an appropriate writ cancelling clearances given to proposed nuclear power plants and

staying all proposed nuclear power plants till requisite safety assessment studies, thorough comparative cost-benefit analysis and meaningful public hearings are carried out by or under the supervision of an independent expert body.

h. Declare all the agreements signed between the Government and private companies, for supply of nuclear reactors & equipment, based on private negotiations, without any competitive process/bidding/tender, without proper technical & safety evaluation, without transparency as void ab initio.

i. Declare that in future all agreement for purchase of nuclear reactors and equipment would only be made only after proper technical & safety evaluation, with competitive process/bidding and with full transparency.

j. Direct that all information regarding previous safety audits, radiation, past accidents & near accidents, costs in all forms, power generation, fuel spent, all agreements signed between Government & nuclear suppliers and all other information concerning public safety and interest, of all existing & proposed nuclear facilities be put in the public domain & on the website of Department of Atomic Energy.

k. Issue or pass any writ, direction or order, which this Hon ble court may deem proper in the interest of nuclear safety and clean environment."

and it is stated that the Supreme Court in the order dated 16.3.2012 has issued rule in terms of prayer (e), namely "Declare the Civil Liability for Nuclear Damage Act, 2010 as unconstitutional and void ab initio." and in respect of the other prayers, the writ petition has been dismissed. A reference to the prayers made before the Supreme Court makes it clear that similar prayer as it is raised in these writ petitions challenging the KKNPP filed in the form of public interest litigation came to be rejected by the Supreme Court.

81. The further contention raised that the validity of the environmental clearance is for five years has no meaning. The said clause makes it abundantly clear that the five years period is to take steps for implementing the project. If no steps have been taken within five years, then the clearance will become inoperative. Moreover, in all the clearances issued by various authorities TNPCB or AERB or MoEF, they have made it very clear that the conditions are to be continued to be followed by the NPCIL and in fact it is stated in various clearances that the conditions may be varied or new conditions imposed in the interest of environmental protection and, therefore, it is a continuing process and surveillance by the statutory authorities and there are checks and balances still available. In the circumstance that exhaustive steps have been taken during

frequent intervals of time by various authorities and decision has been arrived by granting necessary clearances shows that efforts have been taken by the authorities in a careful manner and after thorough study, especially after the Fukushima accident.

82.1. On a reference to the various reports of the AERB consisting of experts, it is seen that the experts, in the report, have in fact considered and compared Chernobyl accident with KKNPP and Fukushima accident with KKNPP. As stated above, the report shows that the Chernobyl accident was caused by design deficiencies and inadequate test procedure, coupled with several violations of the prescribed procedure by operators who were not adequately trained for this specific task, while KKNPP is a pressurized water reactor, cooled and moderated by light water, and its core containing the nuclear fuel is located inside a pressure vessel and there are no pressure tubes, no graphite moderator and no boiling of water in the core. Even for the hypothetical case of a core melt down, a core catcher is provided where the molten core is retained and cooled and the double containment ensures that there will be no significant radiological impact in the public domain and it is stated that the KKNPP is of a most modern design and its design and safety features have nothing in common with Chernobyl.

82.2. While comparing with Fukushima reactor, the experts report found that Fukushima was within 130 Kms from the epicenter and the earthquake of magnitude 9 resulted in tsunami waves and as per the design, emergency diesel generators started automatically to supply essential AC power and after 45 minutes, about 14 Meter high tsunami waves hit the plant and with the result, the emergency diesel generators have failed. However, insofar as it relates to KKNPP, it was found that the nearest off-shore fault line (Andaman-Nicobar-Sumatra fault) capable of generating tsunami is located about 1500 Km from Kudankulam. Therefore, unlike in the case of Fukushima, there is no possibility of a tsunami and an earthquake occurring together at Kudankulam. It has been determined that the maximum flood level at KKNPP site on account of the strongest tsunami or storm surge has been determined as 5.44 Meters above the mean sea level. It is keeping the further safety margin of 2 Meters, the safe grade level for the site has been decided as 7.44 Meters above the mean sea level. It is also stated that all important structures and components, including emergency power supply equipment at KK are located well above this elevation. The KKNPP building elevations are stated as follows:

Description

Elevations in meters above MSL

Margin available meters

Pump house grade elevation

+7.65 m

2.21

Reactor Building grade elevation

+ 8.7 m

3.26

Safety DG building (sealed building)

+ 9.3 m

3.86

Diesel tanks in DG building

+13.8 m

8.36

Batter Banks (sealed building)

+16.5 m

11.06

Passive Heat Removal System Heat Exchangers

+52.2

m 46.76

Main control Room

+26.0 m

20.56

It is stated that having such higher grade elevation, all the safety related buildings are closed with double gasket leak tight doors. Therefore, the Committee found that insofar as it relates to KKNPP, even the strongest tsunami cannot disrupt the emergency power supply and cooling of the reactors can be maintained without interruption. It has also found that Fukushima is of a much older design and did not have several of the safety features that are provided in KKNPP, which is of a most modern design.

82.3. The report goes on that various other public health and Radiation Safety facilities which are made available. The baseline data of the marine environment of KKNPP has been well established through the studies undertaken by Manonmaniam Sundaranar University, Institute of Ocean Management, Anna University, and Engineers India Limited/CMFRI, and the experts in fact found that operation of nuclear power plants in the country at the coastal locations at TAPS, Tarapur in Maharashtra and MAPS at Kalpakkam in Tamil Nadu has not shown any adverse effects on Marine life, including the fish. A study has also been made about the noise pollution. The report states that the Government of India has entered into an agreement with the International Atomic Energy Agency for the application of safeguards for the nuclear fuel to be supplied for KKNPP by the Russian Federation.

82.4. It is stated that the VVER reactors for which the original agreement was made as early as in the year 1988 established in Kudankulam are stated to belong to the family of advanced Pressurized Water Reactors (PWRs) and out of the 434 nuclear reactors under operation in the world, about 269 belong to the PWR family, including 55 VVERs and among the 64 reactors under constructing worldwide, 53 are PWRs including 10 VVERs. On the global trends for nuclear power and need for nuclear power in India, it is stated that after Fukushima, in Russia 10 reactors are under construction, and 14 reactors are further planned; in USA there are proposals for over 20 new reactors; in France they are building a 1600 MWe unit at Flamanville for operation in 2012 and second to follow at Penly; and in UK four 1600 MWe units are planned for operation in 2019; in Germany it had 17 reactors and it has not granted sanction for further life extension to 8 reactors among them that had completed design life and the design life of remaining 9 will be completed by 2022; and in Switzerland, it has 5 reactors in operation and it has decided to phase out Nuclear power by 2034; in Japan they had 54 nuclear reactors, 11 reactors continued to be in operation even during earthquake and tsunami in Japan and are still in operation. While in India there are 20 reactors in operation, Kudankulam being the 21st, China has 15 in operation and 27 under construction; Bangladesh has recently signed

intergovernmental agreement with Russia to start construction of a new VVER plant; Vietnam has signed an agreement recently with Russia for the establishment of their first nuclear power plant (VVER) and with a consortium from Japan to construct a second nuclear plant; UAE continues work related to setting up of its first nuclear plant through a consortium in South Korea.

82.5. The report also states that considering the Indian electricity scenario, in the year 2011 the installed electric capacity was 182 GWe, out of which the electric capacity from nuclear energy was 4.8 GWe, namely 2.6% and with a population of over One Billion, even to attain the present world average electricity utilization, it will require an installed capacity of about 600 GWe. Therefore, the report found that the atomic reactors being proposed in Kudankulam are not only safe but also the matter of necessity for economic and social development of the country. If based on the said views the Government and authorities competent have taken a policy, it is not for this Court to go into the minute details with a suspicious mind.

83.1. A reference to the Regulation of Nuclear and Radiation Facilities issued by the Government of India, through the AERB, shows that the AERB is constituted as per the Atomic Energy Act, 1962 in the year November, 1983. It has taken up the programme of developing safety standards, codes, guides and manuals for both nuclear and radiation facilities, covering all aspects such as siting, design, construction, operation, quality assurance, decommissioning and regulation. It is seen that at various stages of commissioning of the plant, the AERB acts as a continuous supervisor, being an expert body, and at every point starting from the initiation of the nuclear power plant, apart from other plants like heavy water plants; Uranium/Thorium processing and fuel fabrication plants; mining and processing of radioactive ores and minerals; the Code contemplates various stages of consenting process, namely siting, construction, commissioning, operation and decommissioning. The regulation in categorical terms states that the consenting process is a continuing assessment covering all stages and separate categories of consents shall be required at each stage of the consenting process.

83.2. The Regulation states in respect of the first process of "siting" that the process involves review of design basis and issue of a clearance of the site for locating the project based on a Site Evaluation Report (SER), including the Design Basis Information (DBI) submitted by the applicant for review and assessment of the site characteristics. In the second stage of "construction", the consenting process involves At this stage, the consenting process involves, review of the overall design safety, including plant layout, plant buildings/structures, reactor systems, electrical systems, instrumentation and control systems, common services system and waste disposal systems, which is based on the submission of Preliminary Safety Analysis Report (PSAR), Design Basis Reports (DBRs), Quality Assurance (QA) during design, and

applicant's construction Quality Assurance Programme and construction schedule for the proposed NPP/RR before the consent for construction is issued and this consent shall be obtained before starting construction of main plant buildings. These two stages have been completed in respect of KKNPP. The third stage of "commissioning" involves regulatory clearances at several intermediate stages/phases starting from hot conditioning stage to raising reactor power up to 100 % rated power and this itself contains three phases, which are as follows:

"Phase A:

- (i) hot conditioning or passivation of the primary system and light water commissioning of all process systems;
- (ii) fuel loading of the reactor core, and part borated heavy water addition to storage, cooling and moderator systems for flushing in specified limited quantity during which criticality is not possible;
- (iii) addition of heavy water to primary heat transport system; and
- (iv) bulk addition of heavy water to moderator system with minimum specified boron level in heavy water to prevent reactor criticality.

Phase B:

- (i) initial approach to criticality; and
- (ii) low power reactor physics tests and experiments.

Phase C:

- (i) initial system performance tests at low, medium and rated power levels as determined by the stable operation of the turbine; and
- (ii) system performance at rated power."

It is also seen that the consent for commissioning stage shall be obtained after completing pre-commissioning tests and prior to taking up hot conditioning of coolant system and commissioning of reactor systems. The Fourth stage of "operation" involves allowing routine

power operations up to rated power. For this consent, the applicant has to submit detailed test reports in support of his consent application, establishing that the unit is capable of sustained operation up to rated power and the submissions at this stage would include: (a) Final Safety Analysis Report (FSAR), (b) Technical Specifications for Operation incorporating the feedback from commissioning process, (c) Conceptual Decommissioning Plan, and (d) Certification that as-built drawings are available for all systems. The AERB has to check and verify the following prior to issue of consent for operation:

"(a) the plant performance up to rated power should be reviewed and accepted from safety point of view,

(b) quality assurance of systems relevant to operation,

(c) documentation system, and

(d) the emergency plan and preparedness should have been well established. The emergency preparedness should be demonstrated to be effective through emergency exercises."

Further, it is stated that during operation as a result of operating experience or in the light of advances in reactor safety technology, a review and assessment by the Regulatory Body may be required and such review and assessment may result in modifications to NPP/RR, systems or operating procedures, for which necessary approvals will be issued by the Regulatory Body. Lastly comes the "decommissioning" with various stages. Therefore, a thorough reading of the entire regulations show the constant surveillance and involvement of the AERB at each and every stage, not only up to the date of commissioning of the reactor, but also during the time when the reactor continues to function.

84. In addition to the above said efforts taken by various authorities, it is seen that the AERB in its circular issued in June, 2001 framed criteria for regulation of health and safety of nuclear power plant personnel, the public and the environment by fixing the limits for radiation exposure as per the standards prescribed by the Regulatory Body, apart from stating that prior to commissioning, the Station should prepare a radiation protection programme, including the following:

(i) organisational structure and channels of communications;

(ii) radiation protection training and qualification requirements for health physics and other station personnel, as well as workers temporarily employed in the plant;

(iii) radiation dose limits prescribed by the Regulatory Body (viz. in-house limits, recording/reference levels and investigation levels of both internal and external exposures for occupational radiation workers and temporary workers);

(iv) requirements of protective clothing and safety equipment;

(v) station zoning and access control procedures;

(vi) radiation dose control and maintenance of dose records;

(vii) documentation of all radiation-related data such as radiation fields, contamination levels, doses, activity discharges, waste management data, etc.;

(viii) on-site and off-site radiological monitoring and surveillance procedures;

(ix) decontamination procedures;

(x) methods and devices for measuring external and internal exposures;

(xi) instructions for use of different radiation/ contamination measuring instruments;

(xii) control, handling, storage and transport of radioactive materials including radioactive wastes;

(xiii) radioactive waste management procedures;

(xiv) emergency procedures - site and off-site as per guidelines of the Regulatory Body; and

(xv) ALARA approach for radiation exposures both for occupational workers and the public.

85. In addition to that, the TNPCB created by the State Government is having the continuous power of monitoring on the aspect of the air and water pollution and certainly it cannot be said that whenever there is a breach of condition the TNPCB cannot interfere. Therefore, there are adequate and sufficient safeguards available, as it is seen in the various documents. In such circumstances, the apprehension of some of the section of the people as if the commissioning of the plant is opposed to public safety, in our considered view, is unfounded.

86. It is brought to the notice of this Court by the learned counsel appearing for the TNPCB that the consent to operate order dated 23.7.2012 has also been issued in respect of Units 1 and 2 of KKNPP for manufacturing electric power through water cooled water moderator energy reactor 2 x 1000 MWe and such consent to operate has been given both under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as well as Section 25 of the Water (Prevention and Control of Pollution) Act, 1974.

87. We are also informed that the Government of India, MoEF, in the order dated 25.7.2012, has issued CRZ clearance for KKNPP Units 3 to 6 after thoroughly studying the entire reports. The contents of the said order are as follows:

"2. It is inter alia, noted that the proposal involves setting up of additional reactors as KKNPP units-3 to 6 (KKNPP # 3 to 6 each of 1000 MWe). The proposed units are similar in design as in Kudankulam Nuclear Power Plant Units 1 and 2 and also to be located adjacent to KKNPP 1 and 2 which is in commissioning stage. Each unit consists of four Primary Coolant System (PCS) loops transferring the heat energy from the reactor to the Steam Generators (SG). The steam produced in the shell side of SG is fed to the Turbine Generator to generate electricity. For condenser cooling, sea water is drawn at a depth of 10 Mtr from closed dykes which also house a unique fish protection system. The fish protection system separates the fishes from the cooling water and ensures that the fishes are diverted back in sea and water alone is taken to condenser. As water is drawn from closed dykes, sea erosion is not there. The fresh water requirement of the plant is met through desalination plant.

3. The plant is having the most advanced safety features and is termed as "first of its kind" in the safety aspect. Active safety systems are having a backup of passive safety systems. To increase redundancy, each active safety systems are supplied from four independent and physically separated channels. The plant elevation is designed for Tsunami and flooding with sufficient conservatism. The plant system, structures and components are designed for earthquake, explosions and other natural calamities. The Reactor building is designed to take care of an aircraft crash of Cessna type aircraft. 1053 Ha Land is already acquired during phase 1 (KKNPP 1&2) construction. No additional land will be required for present expansion.

4. Comprehensive Environmental Impact Assessment Study for the expansion has been carried out through NEERI, Nagpur and it brought out Environmental Management Plan. As per the EIA, EMP, No National Park, Sanctuary, Biosphere, Mangrove, Monuments, Reserve Forest in the zone of 15 km. The reserve forest of Thadakmalai, Poigaimalai and Mahendragiri lies within 15 to 30 km of the site. The biodiversity rich area of Gulf of Mannar Bio Reserve (GOMBRE) in 150 km from the site. The total fresh water requirement for the proposed KKNPP 3 to 6 units will be

12388 cum/day and it will be met from desalination plants already under operation at the project site. In addition, for condenser cooling, seawater will be taken from the sea and will be discharged back to sea. Major source of wastewater discharge is from condenser cooling system. The cooling system has been designed as once through condenser cooling system wherein water from the Sea would be drawn and discharged back in to the Sea and the temperatures rise of the reject water is limited to +6.6oC.

5. Mathematical Model studies for thermal dispersion of cooling water discharge has been done to locate the outfall point. The Radioactive Liquid waste will be concentrated to reduce volume and concentrated residue will be solidified through cementation and stored in solid waste depository as per the norms of Atomic Energy Regulatory Board (AERB). The remaining liquid wastes conforming to the norms of AERB will be discharged in to Sea.

6. Environmental clearance under ERA notification 2006 has been obtained from MoEF in September, 2008 for KKNPP 3 &4 and in December 2009 for KKNPP 5&6. Tamil Nadu State Coastal Zone Management authority has recommended to MoEF for granting CRZ clearance to KKNPP3-6 in December 2010. MoEF considered the proposal in 99th meeting and recommended for additional studies to be undertaken. The terrestrial and marine EIA updation and the mathematical modeling of CCW discharge has been carried out by M/s.Engineers India Limited, Gurgaon. The CRZ mapping in 1:4000 scale with project layout superimposed has been carried out by M/s.CESS Trivandrum. Comprehensive EMP has been prepared keeping in view all possible strategies oriented towards impact minimization both during construction and operation phases."

along with general and special conditions. Insofar as it relates to Units 1 and 2, as we have observed earlier, inasmuch as the project has come into effect even in the year 1988 and such clearance was given earlier by the MoEF, there is no necessity for any fresh clearance.

88. A reference to the inspection report of the TNPCB for fresh consent dated 15.6.2012 shows that the TNPCB has made a thorough inspection on various aspects of the plant, including the Sewage Treatment Plant, Effluent Treatment Plant, and has considered the details relating to habitation, pattern of vicinity and found that each and every one of the special conditions have been complied with under the Air (Prevention and Control of Pollution) Act, 1981 as well as the Water (Prevention and Control of Pollution) Act, 1974. The special conditions and compliance, as it is seen in the inspection report of the TNPCB are as follows:

Consent Clause

Compliance

The Unit shall provide sewage treatment plant to treat the sewage to the standards prescribed the board.

The Unit has provided two Sewage Treatment Plants to treat the sewage to the standards prescribed by the board. They are:

1. Infrastructure building (54KLD)
2. Common Access area (250 KLD)

Hence complied.

Once through cooling system shall be adopted for condenser cooling as reported. The cooling water shall be disposed off into the sea after satisfying the standards prescribed by the board.

Once through cooling system has been adopted for condenser cooling.

Hence complied.

In view of the discharge in the Gulf of Mannar, the temperature of cooling water should be brought down to ambient temperature of the sea before discharge.

The unit cites the Ministry of Environment and Forest rules notification dated 22nd December, 1998, under G.S.R.7 clause 84, item B for New Projects in coastal areas using sea water which states that:

The thermal power plants using sea water should adopt suitable system to reduce water temperature at the final discharge point so that the resultant rise in the temperature of receiving water does not exceed 7°C over and above the ambient temperature of the receiving water bodies and seeks that the temperature of the cooling water at the point of confluence in sea will be within 7 degree Celsius as per the stipulations of MoEF. This may be decided by the Board.

The trade effluent generated from the different plants of the power station should be treated to conform to the standards prescribed by the board.

Two Trade Effluent Treatment Plants (ETP) to treat the trade effluent are provided. They are:

1. Controlled Access area ETP
2. ETP for oil removal
3. ETP for neutralisation of DM water regeneration.
4. ETP for chemical flushing of steam generator.

Sea Water taken for cooling at various sections and desalination plant rejects are let into sea through the following areas:

1. Condenser Cooling Water.
2. Safety System Cooling.
3. Auxiliary System Cooling.
4. Returns from Desalination Plant.

Hence complied.

The trade effluent after treatment shall be evaporated, solidified and converted as solid waster

The unit has not estimated any quantity of trade effluent from the active area. But has a provision to evaporate the effluent and make it as solid by mixing with cement. This solid waste will be stored in a separate building constructed specifically to store solid wastes.

Complied.

Adequate number of coastal water quality monitoring stations should be set up.

Environmental Survey Laboratory (ESL) was found to be established since 2004 itself.

ESL collects water from wells and sea shore and maintain base line records. It was reported that this laboratory will be functioning continuously.

Hence Complied

Radioactive wastes (Solid and semi solids generated during various operations both low level and high level should properly treated and contained to fix the radioactive as per standards/guidelines prescribed by AERB

The unit has a solid waste storage building specially designed to store radio active wastes. The unit is monitored by AERB for proper storage.

Hence Complied.

Adequate precautionary measures should be taken in transportation handling and storage of radioactive fuel/spent fuel/radioactive wastes.

The unit reported that AERB controls the transportation and storage of fuels and the unit has to adhere to their protocol.

Hence Complied.

It has to be ensured that bore wells are provided in the storage area of solid waste to monitor any possible migration of radioactivity.

The unit has provided 6 bore wells within the plant. Analysis report of the bore well samples are furnished by the unit and it is enclosed.

The unit may be asked to provide bore wells on all directions as a condition in Consent to Operate too.

It has to be ensured that the storm water in the premises shall be collected and disposed off suitably into the sea

Storm water drain are provided and the unit has provided an under ground sump to collect and use this water for gardening. The unit has planned to dispose the excess water into sea.

The radiological consequences on the environment arising out of operations of nuclear process plant should be as low as reasonably achievable both for normal operations as well as postulated accident conditions

The unit reported that the guideline specified by Atomic Energy Regulatory Board (AERB) will be complied to satisfy the conditions.

The unit has to ensure that risk analysis carried out for all radioactive sources and measures for containment in case of such risks are identified.

The unit reported that Safety analysis has been carried out. Volumes of Safety analysis report was shown during inspection.

On site and off site disaster management plan (DMP) should be prepared as per the guidelines stipulated by AERB and approved by the National Emergency Response (NERC) of Department of Atomic Energy, Government of India

Two volumes of onsite and offsite preparedness plan was shown during inspection approved by AERB

The unit shall have regular training drills for all personnel to be involved in handling, storing and processing by updating training manual from time to time so as to control actual spills of hazardous materials if any in the quickest possible time.

The unit has training programmes.

Hence complied.

All the vacant land within the project zone should be afforested with a tree density of 1000 per acre with trees having thick canopy cover.

The unit has requested to exempt the conditions as 10%. However the unit shall be imposed with a condition that minimum 25% of the area shall be developed as green belt.

and this shows that the TNPCB has applied its mind and having satisfied about the compliance has issued the final order of consent to operate.

89. An Off-Site Emergency Exercise was conducted on 9.6.2012 between 5.15 AM and 12 Noon. In the table given in the counter affidavit, the various events have been explained as follows:

Item No

Time

Action

3.1

05:15 05:26 Hrs

Reactor Control Engineer Observes the following (mock observation)

- a) Sharp decrease in primary circuit pressure
- b) Raise in primary containment pressure & temperature
- c) Reactor trip on pressure above the reactor core low
- d) Sharp decrease in Pressurizer level
- e) Primary circuit leak monitoring system going to alarm state in Monitoring and Control Diagnostic System fragment
- f) abnormal radiation field inside the primary containment
- g) Closure of containment isolation valves except Reactor Building exhaust ventilation system isolation dampers 12KLA22A801 & 14KLA22AA802

3.2

Rx Control Engineer informs Shift Charge Engineer (SCE) about the incident.

SCE ensures that the Reactor is tripped, ESFAS actuated and safety systems lined up and long term recirculation is established.

3.3

SCE confirms actuation of containment isolation logic

3.4

SCE further observes,

a) Closing of all containment isolation valves except 12KLA22A801 & 14KLA22AA802 (RB Exhaust ventilation system isolation dampers)

(The above dampers failed to close even after pressing close PB on mosaic panel. Both close and open indications existing)

b) Stack activity high alarm appears on Upper Level Control System (ULCS) workstation (in panel CWH30).

3.5

05:27 Hrs

SCE declares plant emergency by announcement in PA system and informs Site Director, SD, CS, OS and CISF commandant. SCE acts as PED and instructs Health Physicist Unit to do field survey of the following location.

Radiation field outside Reactor Building

Outer door of MAL

Stack

3.6

SCE nominates one of the control room staff for communicating the emergency declaration to other advisory and services groups.

3.7

SCE nominated person carries out emergency notification

3.8

05:50 Hrs

Site Emergency Committee (Advisory Group) arrives at Plant Emergency Control Centre (MCR).

3.9

SCE briefs SEC & Station Director takes charge of PED

3.10

05:55 Hrs

Plant Emergency Director (PED) convenes meeting with SEC members and discuss about prevailing site condition

3.11

SEC further instructs Maintenance Services Group to make arrangement to close RB Exhaust ventilation system isolation dampers 12KLA22A801 & 14KLA22AA802 from 12 & 14 UKD ESFAS panel.

3.12

SHP reports high radiation field at outside Operating Island (0.5mSv/hr mock result)

3.13

05:59 Hrs

SEC reviews the radiological data and advises Site Director for declaration of Site Emergency.

3.14

06:05 Hrs

Site Director (Site Emergency Director-SED) declares Site Emergency. SCE announces the site emergency by PA system.

3.15

SCE nominated person for communication and information group carry out Site Emergency notification.

3.16

06:18 Hrs

District Collector, Tirunelveli is informed about the developments who in turn alert the State Government machineries.

3.17

06:25 Hrs

SEC members move to Site Emergency Control Centre (Nuclear Training Centre)

3.18

OIC ESL activates ESL lab and forms a survey team to do survey in public domain.

Shift crew along with Maintenance Services group continue to put effort to close the failed Containment isolation valve 12KLA22A801 & 14KLA22AA802

SCE continue to monitor the plant parameters and ensure core cooling

3.19

06:25 06:58 Hrs

SED convenes meeting and discuss the prevailing condition by taking feedback from OIC-ESL and SHP

3.20

Prevailing meteorological conditions were established (mock value) and following data (Mock) was given b y OIC, MML & SHP to SEC

Plume direction : NW

Wind direction : SE

Wind speed : 3.2 m/s

Stability clause : D

Affected sector/village : Sector "O", Village:

Nakkaneri

3.21

Emergency Survey at site boundary reports that there is increasing trend of radiation field at Exclusion Zone (i.e. site main gate). The current radiation field is 0.01 mSv/hr (Mock result)

3.22

Radiological survey team was sent to sector "O" in emergency survey vehicle

3.23

06:58 07:15 Hrs

SEC leaves SECC and reach Off-site emergency Control Centre at Anuvijay Town ship.

CS, TSS, MS, OS and Head (IS&F) will remain at Site and assist SCE to bring the plant condition to normal

SEC advices SED for informing District Collector, Tirunelveli, about the site radiological condition and possible escalation to offsite Emergency.

SED informs District Collector, Tirunelveli.

3.24

08:35 08:40 Hrs

District Collector, Tirunelveli along with other State officials reaches Off-site Emergency Control Centre, Anuvijay Township

3.25

08:35 08:50 Hrs

Offi-site emergency survey results were received on wireless at the Off-site Emergency Control Centre.

3.26

Survey team reports that radiation field at site exclusion zone boundary is 0.01mSv/hr (mock result).

3.27

SED advices District Collector, Tirunelveli, for declaration of Off-site Emergency as situation is calling for it.

3.28

08:55 Hrs

Based on SED advice, District Collector, Tirunelveli, Off-site Emergency Director (OED) declares Off-site Emergency (Grade-1-Stay Indoor)

3.29

OED forms the following teams and send them to the designated places

Access control and traffic diversion to prevent & divert the vehicles entering into sector "----" (No actual traffic control will be done. Only counting of vehicles will be done)

Warning and advise To go to the affected village and announce to Stay indoor.

Decontamination Team To check contamination (decontamination if required) of vehicles which comes out of the affected sector

3.30

09:07 Hrs

Access control and traffic diversion reports back OED through telephone after reaching their designated traffic diversion points

3.31

Warning and advise reports reaches Nakkaneri and announce the villager to Stay indoor

3.32

09:19 Hrs

Due to increase in radiation field in the affected village (0.1 mSv/hr), SED advises OED for declaration of grade-2 off-site emergency.

3.33

09:20 Hrs

Based on SED advice, OED declares Grade-2 off-site emergency Administration of stable iodine

3.34

OED instructs Dy.Director Health Services, Tirunelveli to form Prophylactics Distribution Team to initiate distribution of Iodine tablets to the affected sector "O".

3.35

Dy. Director Health Services, Tirunelveli forms Prophylactics Distribution Team and sent them to the affected villages Nakkaneri

3.36

09:24 Hrs

OED directs District Transport Officer, Tirunelveli to mobilize the required number of buses and dispatch them to the affected on his instruction.

3.37

09:25 Hrs

Survey team reports increasing trend of radiation field (0.5-0.6 mSv/hr) at affected village

3.38

09:27 Hrs

OED instructs the survey team for further survey of the affected sector of the radiological condition.

3.39

09:35 Hrs

Iodine prophylaxis Team reaches the affected village and distributing iodine tablet was simulated.

3.40

OED forms following teams and send them to carry out the designated duties.

1. Convoy Team
2. Evacuation Team
3. Rallying post team
4. Patrolling Team

3.41

09:53 Hrs

Iodine prophylaxis Team completes iodine tablet distribution.

3.42

09:54 Hrs

Survey team reports persistence of high radiation field (1.0 mSv/hr) at affected village

3.43

SED advises OED for declaration of Grade-3 Off-site Emergency (Evacuation)

3.44

09:54 Hrs

Based on SED advice, OED declares Grade-3 off-site emergency-Evacuation.

(sample evacuation done in the exercise)

3.45

OED directs District Transport Officer, Tirunelveli to release the required number of buses to the affected village

3.46

09:54 10:03 Hrs

Convoy Team, Evacuation Team, Patrolling Team and buses for evacuation reaches affected village

Rallying post team reaches rallying post and makes necessary arrangement for receiving the

evacuees.

District Supply Officer will arrange food for the evacuees at rallying post.

Patrolling Team stay in the affected village for protecting property of the evacuees.

3.47

10:08 Hrs

Following information received at Off-site Emergency Control Centre from SCE

Containment isolation dampers 12KLA22A801 and 14KLA22AA802 of 1UJA normal exhaust ventilation system are closed.

3.48

10:14 Hrs

Warning & advice team announces for boarding the buses in orderly manner.

Convoy Team & Evacuation Team guide the public for boarding the buses orderly.

3.49

After boarding, buses leave for rallying post (evacuation and convoy team go along with the buses)

3.50

10:24 Hrs

Survey team reports return of radiation field in the affected village is 0. to 0.3 mSv/hr

3.51

10:33 Hrs

Buses reach rallying post and evacuees are temporary sheltered in the rallying post

3.52

10:43 Hrs

Survey team reports radiation levels in the affected village have come down to 0.01 micro Sv/hr to 0.02 micro Sv/hr and this is equal to natural background values.

3.53

11:00 Hrs

SED advises OED for declaration of Termination off-site emergency

3.54

11:00 Hrs

OED on the advice of Site Emergency Director terminate off site emergency

3.55

OED instructs the evacuation teams to bring back the evacuees to the village back.

3.56

11:07 Hrs

Site emergency was subsequently terminated by announcement.

Notification sent as per the procedure

3.57

HPU reports that radiological conditions inside operating island are found to be normal

3.58

11:45 Hrs

Evacuees reaches their village

3.59

11:20 Hrs

Plant emergency was subsequently terminated by announcement

Notification sent as per the procedure.

3.60

12:00 Hrs

OED convenes Feedback meetings at OECC, Anuvijay Township. and the event was participated by not only the officials of the NPCIL and Department of Atomic Energy, but also AERB. Even though it is stated that the said exercise was done in only one village, namely Nakkaneri village, which is stated to be nearer to the KKNPP, as we are informed that nearly 30 to 40 villages are within 30 Kms radius of KKNPP, such event must take place in all villages and more importantly, apart from the officials, as stated above, the people in the area must be made to participate and an awareness programme must be made to infuse confidence in the minds of the local people that the project is for the benefit of the country and there is no need to alarm.

90. The contention of Mr.M.Radhakrishnan, learned counsel by placing reliance on the judgment of the Supreme Court in Fomento Resorts and Hotels Limited and another v. Minguel Martins and others, (2009) 3 SCC 571 is, in our considered view, quoted out of context. That was a case where the public purpose as contemplated under the Land Acquisition Act, 1894 was in issue and the public trust doctrine was reiterated by the Supreme Court holding that the public beach cannot be privatized by any individual by making any blocking. The Supreme Court has held as under:

"52. The matter deserves to be considered from another angle. The public trust doctrine which has been invoked by Ms.Indira Jaising in support of her argument that the beach in question is a public beach and the appellants cannot privatise the same by blocking/obstructing traditional access available through Survey No. 803 (new No. 246/2) is implicitly engrafted by the State

Government in Clause 4(ix) of the agreement. That doctrine primarily rests on the principle that certain resources like air, sea, waters and the forests have such a great importance to the people as a whole that it would be wholly unjustified to make them a subject of private ownership. These resources are gift of nature, therefore, they should be freely available to everyone irrespective of one's status in life.

53. The public trust doctrine enjoins upon the Government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial purposes. This doctrine puts an implicit embargo on the right of the State to transfer public properties to private party if such transfer affects public interest, mandates affirmative State action for effective management of natural resources and empowers the citizens to question ineffective management thereof."

By applying the public trust doctrine, the Supreme Court has held that the Government has to protect the natural resources and cannot permit private ownership for commercial purposes.

91. The reliance placed on the judgment of the Supreme Court in *M.C.Mehta v. Union of India*, (2004) 12 SCC 118 also cannot be said to be made applicable to the facts of the present case. That was a case relating to the mining in Aravalli hills, a forest area, as per the provisions of the Mines and Minerals (Regulation and Development) Act, 1957 and the Supreme Court had to consider whether the mining activity up to 5 Km from Delhi-Haryana border on Haryana side of the ridge and in Aravalli hills caused environmental degradation and while considering the question whether mining activity is to be absolutely banned or permitted on compliance of stringent conditions, in the light of the notification issued by the Government of India dated 27.1.1994 by the MoEF under the Environment (Protection) Act, 1986 read with the Rules to the effect that any expansion or modernization of any activity (if pollution load is to exceed the existing one) or a new project listed in Schedule I of the notification shall not be undertaken in any part of India unless it has been accorded environmental clearance by the Central Government in accordance with the procedure specified in the notification, which is exactly the same notification which has been referred in this case. The mining activity is also included in Schedule I of the said notification, which requires prior permission and the contention of the leaseholders was that extension of period of lease will not amount to either modernization or a new project and it was also contended that the notification was only prospective and applicable only to the new lease granted. It was in those circumstances held that even during the time of renewal of license, the environmental impact has to be considered and it requires fresh clearance from the Government of India, as it was observed in paragraphs 72 and 73 of the judgment, which are as follows:

"72. The notification has been reproduced in the earlier part of the judgment. It, inter alia, applies to mining projects (major minerals) with leases of more than 5 hectares. It can neither be disputed nor has been disputed that the notification is mandatory. It, inter alia, provides that on and from the date of its publication in the Official Gazette expansion or modernisation of any activity (if pollution load is to exceed the existing one) or a new project listed in Schedule I of this notification shall not be undertaken in any part of India unless it has been accorded environmental clearance by the Central Government in accordance with the procedure specified therein. The contention urged on behalf of the leaseholders is that the leases in question do not relate to expansion or modernisation of any activity as postulated by the notification. Further, it is contended, that the notification applies to a new project which means that it will apply to mining lease granted after issue of notification. It has been strenuously contended that the renewal of existing mining lease is neither an expansion nor modernisation nor is it a new project and, therefore, the notification will have no applicability at the time of consideration of the renewal of the lease. Reliance has been placed on a decision of this Court in Narmada case⁴ holding that the notification is clearly prospective and, inter alia, prohibits the undertaking of a new project listed in Schedule I without prior environmental clearance from the Central Government. The contention urged was that since in Narmada Bachao Andolan v. Union of India, (2000) 10 SCC 664, where construction had commenced nearly 8 years prior to the notification, the very same notification was not held applicable. On the same analogy, it cannot have any applicability to the leases granted prior to the issue of notification.

73. No doubt, the notification is prospective but the question here is whether it would be applicable when the aspect of renewal comes up for consideration after the issue of the notification. In Narmada case, it was not held that this notification will not apply at the stage of renewal. The observations made in para 129 of the said decision and relied upon by learned counsel for the leaseholders have no relevance to determine the applicability of the notification at the stage of renewal. In Narmada case, the environmental clearance had been granted in the year 1987 and this Court noticing that when it was granted by the Prime Minister, whatever studies were available were taken into consideration, it was known that the construction of the dam would result in submergence and the consequent effect which the reservoir will have on the ecology of the surrounding areas and various studies relating to environmental impact had been taken into consideration and that there was no obligation to obtain the statutory clearance under the 1994 notification."

But on the facts of the present case, we have also held that between the first agreement and the second agreement there is no modernization or new project and from the beginning the project is VVERs, as it is seen in the project report of the year 1988 itself and, therefore, it cannot be said as if VVER has been introduced as a modern reactor and hence, the Environmental Impact

Assessment and AERB's review are contradictory.

92. In this regard, it is relevant to refer to the decision of the Supreme Court in *Zile Singh v. State of Haryana and others*, (2004) 8 SCC 1, relied upon by Mr. Krishna Srinivasan, learned counsel appearing for NPCIL, wherein the Supreme Court has held that every statute is *prima facie* prospective unless it is made expressly or by necessary implication retrospective. The relevant observation is as under:

"13. It is a cardinal principle of construction that every statute is *prima facie* prospective unless it is expressly or by necessary implication made to have a retrospective operation. But the rule in general is applicable where the object of the statute is to affect vested rights or to impose new burdens or to impair existing obligations. Unless there are words in the statute sufficient to show the intention of the legislature to affect existing rights, it is deemed to be prospective only *nova constitutio futuris formam imponere debet non praeteritis* a new law ought to regulate what is to follow, not the past. (See *Principles of Statutory Interpretation* by Justice G.P. Singh, 9th Edn., 2004 at p. 438.) It is not necessary that an express provision be made to make a statute retrospective and the presumption against retrospectivity may be rebutted by necessary implication especially in a case where the new law is made to cure an acknowledged evil for the benefit of the community as a whole.

...

25. Substitution of a provision results in repeal of the earlier provision and its replacement by the new provision (see *Principles of Statutory Interpretation*, *ibid.*, p. 565). If any authority is needed in support of the proposition, it is to be found in *West U.P. Sugar Mills Assn. v. State of U.P.*, (2002) 2 SCC 645, *State of Rajasthan v. Mangilal Pindwal*, (1996) 5 SCC 60, *Koteswar Vittal Kamath v. K. Rangappa Baliga and Co.*, (1969) 1 SCC 255 and *A.L.V.R.S.T. Veerappa Chettiar v. S. Michael*, AIR 1963 SC 933. In *West U.P. Sugar Mills Assn.* case a three-Judge Bench of this Court held that the State Government by substituting the new rule in place of the old one never intended to keep alive the old rule. Having regard to the totality of the circumstances centring around the issue the Court held that the substitution had the effect of just deleting the old rule and making the new rule operative. In *Mangilal Pindwal* case this Court upheld the legislative practice of an amendment by substitution being incorporated in the text of a statute which had ceased to exist and held that the substitution would have the effect of amending the operation of law during the period in which it was in force. In *Koteswar* case a three-Judge Bench of this Court emphasised the distinction between supersession of a rule and substitution of a rule and held that the process of substitution consists of two steps: first, the old rule is made to cease to exist and, next, the new rule is brought into existence in its place."

The above said view was reiterated subsequently by the Supreme Court in *Sangam Spinners v. Regional Provident Fund Commissioner-I*, (2008) 1 SCC 391.

93. The reliance placed on the observation made by the Supreme Court in *Vellore Citizens's Welfare Forum v. Union of India and others*, (1996) 5 SCC 647, which is as follows:

"10. The traditional concept that development and ecology are opposed to each other is no longer acceptable. Sustainable Development is the answer. In the international sphere,

Sustainable Development as a concept came to be known for the first time in the Stockholm Declaration of 1972. Thereafter, in 1987 the concept was given a definite shape by the World Commission on Environment and Development in its report called *Our Common Future*. The Commission was chaired by the then Prime Minister of Norway, Ms G.H. Brundtland and as such the report is popularly known as Brundtland Report. In 1991 the World Conservation Union, United Nations Environment Programme and Worldwide Fund for Nature, jointly came out with a document called *Caring for the Earth* which is a strategy for sustainable living. Finally, came the Earth Summit held in June 1992 at Rio which saw the largest gathering of world leaders ever in the history deliberating and chalking out a blueprint for the survival of the planet. Among the tangible achievements of the Rio Conference was the signing of two conventions, one on biological diversity and another on climate change. These conventions were signed by 153 nations. The delegates also approved by consensus three non-binding documents namely, a Statement on Forestry Principles, a declaration of principles on environmental policy and development initiatives and Agenda 21, a programme of action into the next century in areas like poverty, population and pollution. During the two decades from Stockholm to Rio Sustainable Development has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems. Sustainable Development as defined by the Brundtland Report means Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. We have no hesitation in holding that Sustainable Development as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.

11. Some of the salient principles of Sustainable Development, as culled out from Brundtland Report and other international documents, are Inter-Generational Equity, Use and Conservation of Natural Resources, Environmental Protection, the Precautionary Principle, Polluter Pays Principle, Obligation to Assist and Cooperate, Eradication of Poverty and Financial Assistance to the developing countries. We are, however, of the view that The Precautionary Principle and

The Polluter Pays Principle are essential features of Sustainable Development. The Precautionary Principle in the context of the municipal law means:

- (i) Environmental measures by the State Government and the statutory authorities must anticipate, prevent and attack the causes of environmental degradation.
- (ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- (iii) The 'onus of proof' is on the actor or the developer/industrialist to show that his action is environmentally benign.

.....

13. The Precautionary Principle and the Polluter Pays Principle have been accepted as part of the law of the land. Article 21 of the Constitution of India guarantees protection of life and personal liberty. Articles 47, 48-A and 51-A(g) of the Constitution are as under:

47. Duty of the State to raise the level of nutrition and the standard of living and to improve public health. The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health.

48-A. Protection and improvement of environment and safeguarding of forests and wildlife. The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.

51-A. (g) to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.

Apart from the constitutional mandate to protect and improve the environment there are plenty of post-independence legislations on the subject but more relevant enactments for our purpose are: the Water (Prevention and Control of Pollution) Act, 1974 (the Water Act), the Air (Prevention and Control of Pollution) Act, 1981 (the Air Act) and the Environment (Protection) Act, 1986 (the Environment Act). The Water Act provides for the constitution of the Central Pollution Control Board by the Central Government and the constitution of the State Pollution Control Boards by various State Governments in the country. The Boards function under the

control of the Governments concerned. The Water Act prohibits the use of streams and wells for disposal of polluting matters. It also provides for restrictions on outlets and discharge of effluents without obtaining consent from the Board. Prosecution and penalties have been provided which include sentence of imprisonment. The Air Act provides that the Central Pollution Control Board and the State Pollution Control Boards constituted under the Water Act shall also perform the powers and functions under the Air Act. The main function of the Boards, under the Air Act, is to improve the quality of the air and to prevent, control and abate air pollution in the country. We shall deal with the Environment Act in the latter part of this judgment.

14. In view of the above-mentioned constitutional and statutory provisions we have no hesitation in holding that the Precautionary Principle and the Polluter Pays Principle are part of the environmental law of the country."

is no doubt a well established principle laid down by the Supreme Court and there is absolutely no quarrel about that. The sustainable development taking precautionary steps to prevent pollution is certainly the modern requirement and we have held by referring to various documents of various statutory authorities, who are specialists in the field, that adequate steps have been taken for the purpose of providing environmental balance and there is no violation of the pollution based principles.

94. Similarly, in the judgment of the Supreme Court in Karnataka Industrial Areas Development Board v. C.Kenchappa and others, (2006) 6 SCC 371, the Supreme Court by considering the Environment Protection and Pollution Control and sustainable development has held that the environmental safety should not be sacrificed and in cases where there is an imminent danger of environmental safety, the projects are to be postponed till the requirements are complied with. In that case, while referring to an earlier decision in M.C.Mehta v. Union of India, (1997) 3 SCC 715, wherein the NEERI in its report had stated that construction activity in the close vicinity of two lakes, namely Badkhal and Surajkund which are near the capital city of Delhi, would cause adverse impact on the local ecology and recommended for green belt at one km radius all around the two lakes, the Supreme Court has held that the directions given the said judgment on NEERI's recommendations are capable of proper implementation. The Supreme Court has observed as follows:

"95. The directions which have been given in the impugned judgment are perhaps on the lines of directions given by this Court in M.C. Mehta v. Union of India, (1997) 3 SCC 715. This Court observed that the preventive measures have to be taken keeping in view the carrying capacity of the ecosystem operating in the environmental surroundings under consideration. Badkhal and Surajkund lakes are popular tourist resorts almost next door to the capital city of Delhi. Two

expert opinions on the record by the Central Pollution Control Board and by NEERI make it clear that the large-scale construction activity in the close vicinity of the two lakes is bound to cause adverse impact on the local ecology. NEERI has recommended green belt at one km radius all around the two lakes.

96. The directions given in the said judgment based on NEERI's recommendations were capable of proper implementation."

Again it has to be held that in the present scenario, for the reasons we have adduced above after going through the records, there is no violation of the environmental safeguards and various safety and other aspects of KKNPP are being monitored continuously by various authorities like AERB, Government of India, and TNPCB, and as and when required the authorities can always give suitable directions for the purpose of maintaining ecological balance.

95. Ms.D.Nagasaila, learned counsel for the PUCL relies on the judgment of the Supreme Court in Indian Council for Enviro-Legal Action v. Union of India and others, (1996) 5 SCC 281, wherein it was held that the enactment of a law, but tolerating its infringement is worst than not enacting the law at all in the context of Air Act, Water Act and Environment (Protection) Act, 1986. The observation made by the Supreme Court, relied upon by the learned counsel, is as follows:

"41. With rapid industrialisation taking place, there is an increasing threat to the maintenance of the ecological balance. The general public is becoming aware of the need to protect environment. Even though, laws have been passed for the protection of environment, the enforcement of the same has been tardy, to say the least. With the governmental authorities not showing any concern with the enforcement of the said Acts, and with the development taking place for personal gains at the expense of environment and with disregard of the mandatory provisions of law, some public-spirited persons have been initiating public interest litigations. The legal position relating to the exercise of jurisdiction by the courts for preventing environmental degradation and thereby, seeking to protect the fundamental rights of the citizens, is now well settled by various decisions of this Court. The primary effort of the court, while dealing with the environmental-related issues, is to see that the enforcement agencies, whether it be the State or any other authority, take effective steps for the enforcement of the laws. The courts, in a way, act as the guardian of the people's fundamental rights but in regard to many technical matters, the courts may not be fully equipped. Perforce, it has to rely on outside agencies for reports and recommendations whereupon orders have been passed from time to time. Even though, it is not the function of the court to see the day-to-day enforcement of the law, that being the function of the Executive, but because of the non-functioning of the

enforcement agencies, the courts as of necessity have had to pass orders directing the enforcement agencies to implement the law.

42. As far as this Court is concerned, being conscious of its constitutional obligation to protect the fundamental rights of the people, it has issued directions in various types of cases relating to the protection of environment and preventing pollution. For effective orders to be passed, so as to ensure that there can be protection of environment along with development, it becomes necessary for the court dealing with such issues to know about the local conditions. Such conditions in different parts of the country are supposed to be better known to the High Courts. The High Courts would be in a better position to ascertain facts and to ensure and examine the implementation of the anti-pollution laws where the allegations relate to the spreading of pollution or non-compliance of other legal provisions leading to the infringement of the anti-pollution laws. For a more effective control and monitoring of such laws, the High Courts have to shoulder greater responsibilities in tackling such issues which arise or pertain to the geographical areas within their respective States. Even in cases which have ramifications all over India, where general directions are issued by this Court, more effective implementation of the same can, in a number of cases, be effected, if the High Courts concerned assume the responsibility of seeing to the enforcement of the laws and examine the complaints, mostly made by the local inhabitants, about the infringement of the laws and spreading of pollution or degradation of ecology."

The said observation does not apply to the facts of the present case. The modern process in the atomic reactors, as it is seen in various reports in respect of the KKNPP Units 1 and 2 is not only more acceptable when compared to the other atomic projects in the world, but also has taken note of all the safety measures, including the pollution. The very contention raised by Ms.D.Nagasaila that the TNPCB has issued a show cause notice on 11.10.2001 after inspection on 9.9.2001 and subsequent show cause notice issued shows that the TNPCB has in fact made inspection and thereafter on compliance of all the requirements, the necessary clearance has been granted.

96. As correctly submitted by Ms.D.Nagasaila, the United States Court of Appeals in State of New York v. Nuclear Regulatory Commission and United States of America, (No.11-1045, dated 8.6.2012), while considering the suggestions made by the Environmental Impact Studies and environmental agencies regarding various permits in respect of the atomic energy project has directed the safeguards which are as follows:

"Though we give considerable deference to an agency's decision regarding whether to prepare an EIS, the agency must 1) "accurately identify the relevant environment concern", 2) take a

"hard look at the problem in preparing its EA," 3) make a "convincing case for its finding of no significant impact," and 4) show that even if a significant impact will occur, "changes or safeguards in the project sufficiently reduce the impact to a minimum." Taxpayers of Michingan Against Casinos v. Norton, 433 F.3d 852, 861 (D.C. Cir. 2006) (internal quotation omitted). An agency's decision not to prepare an EIS must be set aside if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."

Even though the said judgment has no binding effect, there is absolutely no difference of opinion in respect thereof.

97. The reliance placed on the judgment of the Apex Court in Lafarge Umiam Mining Private Limited, T.N.Godavarman Thirumulpad v. Union of India and others, (2011) 7 SCC 338 by Ms.D.Nagasaila, especially paragraph (97), which is as follows:

"97. One more aspect at this stage needs to be mentioned. Public participation provides a valuable input in the process of identification of forest. Today, amongst the tribals of the North-East, there is a growing awareness of the close relationship between poverty and environmental pollution. According to Environmental Law and Policy in India by Shyam Divan and Armin Rosencranz, many native and indigenous people are fully aware of what constitutes preservation and conservation of biodiversity. Many native and indigenous people have many a times opposed government policies that permit exploitation on traditional lands because such exploitation threatens to undermine the economic and spiritual fabric of their culture, and often results in forced migration and resettlement, the struggle to protect the environment is often a part of the struggle to protect the culture of the native and indigenous people."

relates to the forest exploitation by others at the cost of the natives and the same has no application to the facts of the present case.

98. In People's Union for Civil Liberties and another v. Union of India and others, (2004) 2 SCC 476, the Supreme Court referring to the Atomic Energy Act, 1962 and the delegation of powers, while deciding about the vires of Section 18 of the Atomic Energy Act, 1962, upheld the validity of the said section which imposes a restriction on disclosure of certain information. The Supreme Court, while considering about the authority of the AERB, which is a statutory body, by referring to the functions of the AERB, which are as follows:

"32. AERB is a statutory body. The following are its functions:

(i) The jurisdiction of AERB covers installations such as nuclear power stations, nuclear fuel

fabrication, heavy water plants, uranium mines, thorium-processing units etc. and all installations in which radiation is used for medical, industrial or research purposes (except Bhabha Atomic Research Centre and its facilities, due to their special nature).

(ii) AERB is manned by some of the nation's top experts in the relevant fields. It is also supported by various experts belonging to reputed academic institutions and other government agencies. AERB thus draws on the expertise and knowledge base available all over the country.

(iii) The Board issues different authorizations at each stage such as siting, construction, commissioning, operating and decommissioning of nuclear plants and installations. AERB licenses Nuclear Engineers at different levels, such as Reactor Operator, Shift Charge Engineers, Control Engineers, etc. Units are permitted to function only if the stipulated number of licensed personnel are available in every shift.

(iv) Apart from the Safety Committees of the units concerned, AERB has evolved a multi-disciplinary three-tier safety-review procedure to enforce safety stipulations in nuclear installations. The first tier is at the plant level; the next at the Specialists' Committees level; and the third at the Board level.

(v) The Board has set up two Specialists' Committees: the Safety Review Committee for Operating Plants (SARCOP) and the Safety Review Committee for Applications of Radiation (SARCAR). These consist of scientists and technologists from different disciplines. SARCOP deals with operating plants of the Department and SARCAR deals with radiation installations for medical, industrial and research purposes. The Specialists' Committees meet regularly to review the safety status.

(vi) AERB itself has seven technical divisions, with over a hundred full-time scientists, engineers and technologists with wide experience and expertise in their relevant fields. AERB has also set up its own Safety Research Institute at Kalpakkam.

(vii) AERB uses many inputs to assess the safety status of the plants/installations. These include reports of inspection by the AERB staff, radiation dose records and environmental monitoring reports.

(viii) Each nuclear installation has an independent Health Physics set-up to constantly monitor the radiation dose to workers, and also an Environmental Survey Laboratory which continuously collects thousands of samples of food, water, air and sediment to monitor radioactivity releases to the environment.

(ix) AERB has prescribed limits for discharges and ensures that the radiation releases are well within the prescribed limits. The limits prescribed are based on international recommendations, and in all cases are either equal to or more stringent than these.

(x) Apart from this standard procedure, AERB can also act suo motu, or on a complaint from a bona fide member of the public.

(xi) As part of the Public Information Programme, AERB issues a quarterly newsletter, and an annual report. Based on the continuous evaluation of the safety status of nuclear power plants, extracts of relevant records are published in the annual report of AERB. Press releases on the regulatory activities of AERB are issued periodically."

has held that it cannot be said that Section 18 has bestowed unguided and uncanalised powers on the Central Government in the following words:

"40. We do not think that having regard to the purport and object of the said Act, the provisions of Section 18 have bestowed unguided and uncanalised powers on the Central Government. Sections 18 and 3 of the Atomic Energy Act had to be enacted by Parliament as in wrong hands the information can pose a danger not only to the security of the State but to the public at large."

and a presumption has been drawn that a statutory authority's function would not be exercised arbitrarily in paragraph (43), which is as follows:

"43. A further presumption may also be drawn that the statutory authority would not exercise the power arbitrarily."

While considering about the jurisdiction of the Court while deciding about Section 18 of the Atomic Energy Act, 1962, the Supreme Court has made a categorical remark as follows:

"67. Once provisions of Section 18 of the Act and the order framed thereunder are held to be intra vires, the only question which arises for consideration is as to whether exercise of such powers should be held to be invalid by this Court. The jurisdiction of this Court in such matters is very limited. The Court will not normally exercise its power of judicial review in such matters unless it is found that formation of belief by the statutory authority suffers from mala fides, dishonesty or corrupt practice. The order can be set aside if it is held to be beyond the limits for which the power has been conferred upon the authorities by the legislature or is based on grounds extraneous to the legislation and if there are no grounds at all for passing it or if the

grounds are such that no one can reasonably arrive at the opinion or satisfaction required thereunder. No such case has been made out by the appellant."

In the case on hand, not only the AERB, which is a statutory body, but also MoEF, TNPCB in all clearances have applied their mind and statutorily passed various orders and there is no scope for this Court to presume that the orders are arbitrary.

99. In *Secretary and Curator, Victoria Memorial Hall v. Howrah Ganatantrik Nagrik Samity and others*, (2010) 3 SCC 732, the Supreme Court has held that if an Expert Committee report is to be rejected, it must be on a specific and good ground by relying upon an earlier judgment in *University of Mysore v. C.D.Govinda Rao*, AIR 1965 SC 491 and other consistent views taken by the Supreme Court. The Supreme Court held as follows:

"36. Thus, it is evident that the High Court did not give any specific/good or relevant reason for not accepting the recommendation made by the Expert Committee at the initial stage or while rejecting the application for modification vide the impugned order.

37. The Constitution Bench of this Court in *University of Mysore v. C.D. Govinda Rao*, AIR 1965 SC 491 held that normally the courts should be slow to interfere with the opinions expressed by the experts. It would normally be wise and safe for the courts to leave the decision to experts who are more familiar with the problems they face than the courts generally can be. This view has consistently been reiterated by this Court as is evident from the judgments in *State of Bihar v. Dr. Asis Kumar Mukherjee*, (1975) 3 SCC 602, *Dalpat Abasaheb Solunke v. Dr. B.S. Mahajan*, (1990) 1 SCC 305, *Central Areca Nut & Cocoa Mktg. & Processing Coop. Ltd. v. State of Karnataka*, (1997) 8 SCC 31 and *Dental Council of India v. Subharti K.K.B. Charitable Trust*, (2001) 5 SCC 486."

By applying the said yardstick to the facts of the present case, the Experts Committee reports do not require any interference by this Court.

100. That is also the view expressed in respect of educational matters in a subsequent decision of the Supreme Court in *Dr.Basavaiah v. Dr.H.L.Ramesh and Others*, (2010) 8 SCC 372, wherein in respect of selection to the post of Readers in Sericulture, the experts opinion was not interfered. The Supreme Court has held as under:

"20. It is abundantly clear from the affidavit filed by the University that the Expert Committee had carefully examined and scrutinised the qualification, experience and published work of the appellants before selecting them for the posts of Readers in Sericulture. In our considered

opinion, the Division Bench was not justified in sitting in appeal over the unanimous recommendations of the Expert Committee consisting of five experts. The Expert Committee had in fact scrutinised the merits and demerits of each candidate including qualification and the equivalent published work and its recommendations were sent to the University for appointment which were accepted by the University.

21. It is the settled legal position that the courts have to show deference and consideration to the recommendation of an Expert Committee consisting of distinguished experts in the field. In the instant case, the experts had evaluated the qualification, experience and published work of the appellants and thereafter recommendations for their appointments were made. The Division Bench of the High Court ought not to have sat as an appellate court on the recommendations made by the country's leading experts in the field of Sericulture.

22. A similar controversy arose about 45 years ago regarding appointment of Anniah Gowda to the post of Research Reader in English in Central College, Bangalore in *University of Mysore v. C.D. Govinda Rao* AIR 1965 SC 491 in which the Constitution Bench unanimously held that normally the courts should be slow to interfere with the opinions expressed by the experts particularly in a case when there is no allegation of mala fides against the experts who had constituted the Selection Board. The Court further observed that it would normally be wise and safe for the courts to leave the decisions of academic matters to the experts who are more familiar with the problems they face than the courts generally can be.

23. We have been called upon to adjudicate a similar matter of the same University almost after half a century. In a judicial system governed by precedents, the judgments delivered by the Constitution Bench and other Benches must be respected and relied on with meticulous care and sincerity. The ratio of the Constitution Bench has not been properly appreciated by the learned Judges in the impugned judgment.

24. In *M.C. Gupta (Dr.) v. Dr. Arun Kumar Gupta*, (1979) 2 SCC 339, somewhat similar controversy arose for adjudication, in which the State Public Service Commission invited applications for two posts of Professors of Medicine in the State Medical Colleges. The two appellants as well as Respondents 1, 2 and 3 applied for the said post. Appellant 1 had teaching experience of about 6 years and 6 months as a Lecturer in Cardiology in the Department of Medicine and about 3 years and 2 months as Reader in Medicine in S.N. Medical College, Agra. Since there was no separate Department of Cardiology in that College, Cardiology formed part of General Medicine and as such he was required to teach General Medicine to undergraduate students and to some postgraduate students in addition to Cardiology. Similarly, Appellant 2 had one year's experience as post-doctoral teaching fellow in the Department of Medicine, State

University of New York, Buffalo, one year's teaching experience as Lecturer while posted as a Pool Officer and 15 months' teaching experience as post-doctoral research fellow in the Department of Medicine in G.S.V.M. Medical College, Kanpur and about 4 years and 6 months' teaching experience as Assistant Professor of Medicine, State University of New York, Buffalo. Cardiology is a part of Medicine and the teaching experience acquired while holding the post of Lecturer in Cardiology was teaching experience in a subject which substantially formed part of General Medicine over and above the same. The Commission was amply justified in reaching to the conclusion that he had the requisite teaching experience. The High Court was, therefore, in error in quashing its selection of the appellant in this case.

101. That decision was again followed by the Supreme Court in *State of Tamil Nadu and others v. K. Shyam Sunder and others*, (2011) 8 SCC 737, while construing the Tamil Nadu Uniform System of School Education Act, 2010 as follows:

"42. Undoubtedly, the court lacks expertise especially in disputes relating to policies of pure academic educational matters. Therefore, generally it should abide by the opinion of the expert body. The Constitution Bench of this Court in *University of Mysore v. C.D. Govinda Rao*, AIR 1965 SC 491 held that normally the courts should be slow to interfere with the opinions expressed by the experts. It would normally be wise and safe for the courts to leave such decisions to experts who are more familiar with the problems they face than the courts generally can be. This view has consistently been reiterated by this Court in *Neelima Misra v. Harinder Kaur Paintal*, AIR 1990- SC 1402, *Victoria Memorial Hall v. Howrah Ganatantrik Nagrik Samity*, AIR 2010 SC 1285, *Basavaiah (Dr.) v. Dr. H.L. Ramesh*, (2010) 8 SCC 372 and *State of H.P. v. H.P. Nizi Vyavsayik Prishikshan Kendra Sangh*, (2011) 6 SCC 597."

102. In *Avishek Goenka v. Union of India*, (2012) 5 SCC 275, Hon'ble Mr. Justice Swatanter Kumar, while speaking for the Bench, has held that in respect of technical aspects, the concept of "regulatory regime" has to be understood and applied by the courts and the courts cannot substitute their own view. It is relevant to extract paragraphs (20) and (21) of the said decision, which is as follows:

"20. The abovementioned points of divergence between TRAI and DoT are matters which will have serious ramifications not only vis-à-vis the regulatory authorities and the licensees but also on the subscribers and the entire country. These aspects demand serious deliberation at the hands of the technical experts. It will not be appropriate for this Court to examine these technical aspects, as such matters are better left in the domain of the statutory or expert bodies created for that purpose.

21. The concept of 'regulatory regime' has to be understood and applied by the courts, within the framework of law, but not by substituting their own views, for the views of the expert bodies like an appellate court. The regulatory regime is expected to fully regulate and control activities in all spheres to which the particular law relates."

103. Again, it was in *Systopic Laboratores (Pvt.) Ltd. v. Dr.Prem Gupta*, 1994 Supp (1) SCC 16, the Supreme Court has held that evaluation of expert's report, there it was under Section 26-A of the Drugs and Cosmetics Act, 1940, cannot be done by Courts. It is relevant to extract the following paragraph of the said decision:

"19. Having considered the submissions made by the learned counsel for the petitioners and the learned Additional Solicitor General in this regard, we must express our inability to make an assessment about the relative merits of the various studies and reports which have been placed before us. Such an evaluation is required to be done by the Central Government while exercising its powers under Section 26-A of the Act on the basis of expert advice and the Act makes provision for obtaining such advice through the Board and the DCC."

104. In the absence of any allegation of mala fide, the Courts should be slow in interfering in respect of appointments made by the Universities, who are the academic bodies, and therefore in respect of academic matters, it was held by a Constitutional Bench of the Supreme Court in *University of Mysore v. Govinda Rao*, AIR 1965 SC 491 as under:

"13. Before we part with these appeals, however, reference must be made to two other matters. In dealing with the case presented before it by the respondent, the High Court has criticised the report made by the Board and has observed that the circumstances disclosed by the report made it difficult for the High Court to treat the recommendations made by the expert with the respect that they generally deserve. We are unable to see the point of criticism of the High Court in such academic matters. Boards of Appointments are nominated by the Universities and when recommendations made by them and the appointments following on them, are challenged before courts, normally the courts should be slow to interfere with the opinions expressed by the experts. There is no allegation about mala fides against the experts who constituted the present Board; and so, we think, it would normally be wise and safe for the courts to leave the decisions of academic matters to experts who are more familiar with the problems they face than the courts generally can be. The criticism made by the High Court against the report made by the Board seems to suggest that the High Court thought that the Board was in the position of an executive authority, issuing an executive fiat, or was acting like a quasi-judicial tribunal, deciding disputes referred to it for its decision. In dealing with complaints made by citizens in regard to appointments made by academic bodies, like the Universities, such an approach would not be

reasonable or appropriate. In fact, in issuing the writ, the High Court has made certain observations which show that the High Court applied tests which would legitimately be applied in the case of writs of certiorari. In the judgment, it has been observed that the error in this case is undoubtedly a manifest error. That is a consideration which is more germane and relevant in a procedure for a writ of certiorari. What the High Court should have considered is whether the appointment made by the Chancellor had contravened any statutory or binding rule or ordinance, and in doing so, the High Court should have shown due regard to the opinion expressed by the Board and its recommendations on which the Chancellor has acted. In this connection, the High Court has failed to notice one significant fact that when the Board considered the claims of the respective applicants, it examined them very carefully and actually came to the conclusion that none of them deserved to be appointed a Professor. These recommendations made by the Board clearly show that they considered the relevant factors carefully and ultimately came to the conclusion that Appellant 2 should be recommended for the post of Reader. Therefore, we are satisfied that the criticism made by the High Court against the Board and its deliberations is not justified."

105. While considering about the site selection regarding the construction of Dam by a Seismologist, taking note of the fact that the Government was satisfied about the report of the experts, the Supreme Court has held that regarding the decision arrived at by an expert, there is no interference necessary, since the Court does not possess requisite expertise to render any final opinion on the rival contentions of the experts. That was in *Tehri Bandh Virodhi Sangarsh Samiti and others v. State of U.P. and others*, 1992 Supp (1) SCC 44 and it is relevant to extract paragraph (14), which is as under:

"14. Learned counsel for the petitioners have urged that the report submitted by Prof. Jai Krishna should not have been relied upon, instead the matter should have been referred to a seismologist and that the safety of the dam is still in danger. In this connection he referred to the opinion given by Prof. James N. Brune to Dr V.K. Gaur as well as to his dissenting opinion. The questions relating to the design of the dam, the seismic potential of site where the dam is proposed to be constructed and the various steps which have been taken for ensuring the safety of the dam are a highly intricate question relating to science and engineering. This Court does not possess the requisite expertise to render any final opinion on the rival contentions of the experts. In our opinion the court can only investigate and adjudicate the question as to whether the government was conscious to the inherent danger as pointed out by the petitioners and applied its mind to the safety of the dam. We have already given facts in detail which show that the government has considered the question on several occasions in the light of the opinions expressed by the experts. The government was satisfied with the report of the experts and only thereafter clearance has been given to the project. The petitioners contend that project has not

as yet been cleared."

106. We had an occasion to read the opinion of the Former President of India and renowned Scientist produced by this country, Dr.A.P.J.Abdul Kalam, who along with Mr.V.Ponraj visited the KKNPP and declared that inasmuch as the KKNPP is situated 1500 Km away from the epicenter, the place is a safe one and there is absolutely no possibility for any danger. Having found that after Fukushima accident people in the area are in an agitated mood out of fear of such occurrence in KKNPP, Dr.A.P.J.Abdul Kalam has in a very confidential way stated that natural calamity is the Act of Nature and if humankind was afraid of such calamity, the mankind could not have developed and the KKNPP is a project of God, since for fulfilling the electricity production and need of this country, which is 50000 MW in 2030, the KKNPP is a necessary project. Having taken note of the fact that the population in nearly 50-60 villages in and around KKNPP is 1,00,000, he has also suggested a special programme in the name of Kudankulam PURA (Providing Urban Amenities in Rural Areas) with the cost of Rs.200/- Crores and he has also given the following suggestions:

(i) Around 30 Kms within the Kudankulam from various villages bus facilities should be provided for the people to reach Tirunelveli, Kanyakumari and Madurai with four-way roads.

(ii) Employment opportunity must be provided for 10,000 people by creating industries beyond 30 Kms up to 60 Kms of Kudankulam and youngsters should be provided with bank loan facilities to start self-employment with 25% concession;

(iii) On the beach area of Kudankulam, green houses; multistoried buildings; community halls; play grounds with all infrastructure facilities must be provided, apart from providing generator bodies, jetties, cold storage facilities for preserving fish for the benefit of fishermen of the area;

(iv) One Million Litre of potable water must be prepared from sea water every day and pure potable water must be given for drinking purposes to the people living in the area;

(v) To enable the agriculturists in the area to irrigate their lands and also for the purpose of drinking water steps must be taken to draw water from Pechiparai dam;

(vi) A multi-specialty hospital with all infrastructure facilities of world class standards with 500 bed facilities must be constructed and 11 villages must be connected with two mobile medical diagnostic facilities;

(vii) Five schools in CBSE as well as the Tamil Nadu Education System along with hostel

facilities must be established to provide quality education to the children of the area;

(viii) Broadband internet facilities must be provided in all villages;

(ix) The security protection station must be established, in which training must be given in respect of safety measures. Groups must be created for establishing relationship between the atomic reactor and people and to develop social awareness and economic development, apart from providing the methods to be followed during emergency situations; and

(x) In each of the villages, the youngsters must be given training to go for higher studies in order to provide them permanent employment opportunities.

These are the ten constructive suggestions which have been given by the Former President of India on visiting the KKNPP.

107. We are happy to note that the Government of Tamil has also allotted Rs.12 Crores for the purpose of upgrading Kudankulam and Chettikulam primary health centres into a Government Hospitals and open a new primary health centre at Uvari as a part of Rs.500 Crores package announced by the Hon'ble Chief Minister. It is also stated that out of the package of Rs.500 Crores, the Government of Tamil Nadu is planning to put up the construction of 10000 houses at an unit cost of Rs.3 Lakhs per house with plinth area of 300 Sq.Ft. under KKNPP Neighbourhood Development Scheme. The Government has also estimated nearly 10000 people living either without houses or living in huts or tiled roof houses in 13 villages near KKNPP and the Government is planning to complete the construction in three phases, namely (i) 5000 houses in 2012-2013; (ii) 3000 houses in 2013-2014; and (iii) 2000 houses in 2014-2015. In respect of the infrastructure development in the area, the Government has planned to spend Rs.200 Crores in a period of two years, as we have already referred to. While appreciating the gesture shown by the State Government, we only request the State Government to take effective steps forthwith which may create a peaceful atmosphere in the area for the betterment of the entire country as a whole.

108. By taking note of the overall situation explained in detail, we are of the view that the KKNPP in respect of Units 1 and 2 do not suffer from any infirmities either for want of any clearance from any of the authorities, including the MoEF, AERB, TNPCB, and the Department of Atomic Energy, and there is absolutely no impediment for the NPCIL to proceed with the project. However, it is made clear that all the above said regulatory authorities shall periodically oversee the compliance and maintenance of standards of pollution, etc., as contemplated under law. It is also made clear that the Government of Tamil Nadu, through the District Collector,

Tirunelveli, shall take appropriate steps for the purpose of conducting off-shore drill periodically in all villages by involving not only the officials, but also public and also create awareness among the people.

109. It is made clear that the Government of Tamil Nadu shall initiate such contemplated schemes forthwith so that the benefits shall be conferred to the really deserving residents of the area. As suggested by the Former President of India, Dr.A.P.J.Abdul Kalam, we also propose the Government of Tamil Nadu to establish a multi-specialty hospital with all facilities in the area, apart from establishing various schools with CBSE as well as State Government syllabus with hostel facilities to ensure imparting best education to the children of the residents of the area. The State Government may also provide adequate infrastructure facilities to enable the fishermen in the area to have their mechanized boats and other jetties repaired in and around Kudankulam and necessary financial assistance may also be provided; cold storage facilities may be provided to store fish; and employment schemes may be floated. It is for the State Government to take necessary steps in this regard.

In the result, W.P.Nos.24770 and 22771 of 2011, 8262 and 13987 of 2012, W.P.(MD) Nos.1823 and 2485 of 2012 are dismissed. With regard to W.P.(MD) Nos.14054 and 14172 of 2011 seeking commissioning of the plant, it left open to the authorities concerned to take appropriate action in this regard and accordingly, these writ petitions are closed. No costs. Consequently, all connected miscellaneous petitions are closed.