



Nuclear Power Corporation of India limited

(A Government of India enterprise)

Kaiga site , Kaiga-581400,Uttara Kannada Dist., Karnataka

KAIGA GENERATING STATION

REPORT ON

**NPCIL KAIGA'S PARTICIPATION IN A ONE DAY SEMINAR ON
NUCLEAR ENERGY- OPPORTUNITIES AND CHALLENGES
AT SDMCET DHARWAD**



NUCLEAR POWER IS SAFE CLEAN AND GREEN



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REPORT ON PUBLIC OUTREACH PROGRAM

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NPCIL KAIGA'S PARTICIPATION IN A ONE DAY SEMINAR ON
NUCLEAR ENERGY- OPPORTUNITIES AND CHALLENGES
AT SDMCET DHARWAD ON 20.08.2016

COMPILED BY

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K.R. MOHAN RAM
KGS-1&2



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REPORT ON PUBLIC OUTREACH PROGRAM

1.0 Introduction

Nuclear Power Corporation Of India Limited (NPCIL) has been carrying out Public awareness activities amongst school and college students, teachers press, media and the local populous. A public outreach program is in place where in resource personnel from NPCIL Kaiga visit the various education institutes and bring in awareness about the various facets of Nuclear power.

2.0 Objectives

The objective of this programme was to bring in awareness about the various facets of Nuclear power and motivate the young minds - the future of the country to learn more about Nuclear power.

3.0 About SDMCET

Sri Dharmasthala Manjunatheshwara College of Engineering & Technology, Dharwad is under the flagship of SDM Educational Society, Ujire. The guiding spirit and driving force for all the achievements and progress of our institute is the President Dr. D. Veerendra Heggade, Dharmadhikari of SriKshethra Dharmasthala, who has the highest concern for Vidyadana, being one of the philosophies of SriKshetra.



SDMCET is one of the top quality institutions in India. Since its inception in 1979, the institute has established itself as a centre of high repute engaged in imparting quality education through innovative teaching learning process, best practices and providing support to Research & Developmental activities. The institution is recognized by AICTE, affiliated to VTU Belgaum, beneficiary of TEQIP phase II program of World Bank, accredited twice by NBA besides having academic autonomy. The institution offers Under Graduate programs in seven disciplines and eight Post Graduate programs across the departments.

4.0 Conduct of the seminar

One day seminar on Nuclear Energy – Opportunities and Challenges at S D M College of Engineering and Technology Dharwad. The program jointly organized by the department of Electrical & Electronics Engineering, Department of Chemical Engineering and Nuclear Power



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Corporation of India Limited Kaiga. Shri K. R. Mohan Ram, SO (G), Station Reactor Physicist KGS-1&2 and Shri S.S. Managanvi, SO(G), RSO KGS-3&4 participated as the resource persons from NPCIL, Kaiga. Students from the undergraduate courses and PG courses of Sri Dharmasthala Manjunatheshwara College of Engineering & Technology (SDMCET) Dharwad KLE Belgaum and students of Engineering College at Hulukoti totaling about 140 persons participated in the program.

Sri Jeevandhar kumar, Deputy Secretary, SDM Education Society Dharwad, while inaugurating the seminar opined that India is trying hard to get entry into Nuclear Supply Group of the world so that it can have the Technology transfer for its Energy Security. President of the function Dr. S. B. Vanakudre, Principal SDMCET highlighted about the abundant availability of Thorium in India. Nuclear waste disposal is another area requiring Technological solutions from engineering students. The research trends in nuclear energy are towards using entire fuel, he added.

Miss Shreenidhi Patil presented invocation song. Dr. G. D. Kamalapur welcomed the gathering, Dr. Keshav Joshi briefed about the seminar, Mrs. Rashmi S H proposed vote of thanks. Miss Asha Chavan compeered the program.



Inauguration of seminar on Nuclear Energy by Sri Jeevandharkumar, Dr. S. B. Vanakudre, Dr. K. R. Mohanram, Dr. S. S. Managanvi, Dr. G. D. Kamalapur & Dr. Keshav Joshi

Shri K.R. Mohan Ram during his presentation provided insight on various aspects of the Nuclear Power to the participants. It was informed that the electricity is a prime driver of economic growth for any nation. The per capita electricity consumption and economic prosperity of a nation are closely interlinked. The present energy scenario was brought to the knowledge of the participants. Presently, most of the Hydro potential has been harnessed, the coal may not last even a century, and the wind and solar power have their own limitations. Therefore Nuclear Power is the only available option of the power, which is the least polluting, safe, green and the



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long lasting energy source for India. It was stressed that the Nuclear power industry has the highest observance of safety that starts right at the design stage, site selection, construction, commissioning, operation and maintenance. The elements of Safety design principles, safety during operation safety of personnel, safety of the environment, emergency planning and preparedness, safety review process and radioactive waste management were explained to the audience. The concept of multi layers of safety and the defense in depth philosophy was also briefed.

Shri S.S. Managanvi during his presentation provided insight about the naturally omnipresent radiation to the participants. The information of the presence of radioactive elements naturally in the human body and the dose due to routine medical diagnostic procedures such as dental X-ray, chest X-ray, CT scan, etc. were explained It was also emphasized that a single chest X-ray exposes a patient to far more radiation each time than a nuclear power plant would in many years.

The participants asked several questions and their apprehensions were allayed.

PHOTOGRAPHS





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INFORMATION ABOUT THE SEMINAR IN THE MEDIA

Deccan Herald 19.08.2016

Seminar on Nuclear energy in Dharwad tomorrow

DHARWAD: Department of Electrical Engineering, Department of Chemical Engineering of SDMCET, Dharwad, and Nuclear Power Corporation of India Limited Kaiga are holding a seminar on 'Nuclear energy-options & challenges' at SDMCET in Dharwad on August 20.

The seminar is organised to scintillate upon the Nuclear energy options in the present context along with the challenges and opportunities for meeting long term energy needs of the country.

The energy policy of a country is dictated by the resources available or accessible, which ensure long-term energy security. The subject of energy options is a hot topic of discussion in many countries.

The aspiration of the developing countries is to scale up energy production without causing irreversible damage to the environment.

Nuclear energy gives viable option due to the following: reliable energy source, high energy density, economic, impressive capacity factor and

sustainability.

"India is blessed with nearly inexhaustible resource of thorium. The future energy depends on efficient exploration of thorium. Thorium is not being tapped so far because it does not have isotopes in it. It is fertile material and needs to be converted into fissile material, Uranium-233.

In the three stage nuclear programme, the third stage is to enter into large-scale power production from thorium. As India has entered into international nuclear co-operation,

an opportunity for a rapid growth in installed capacity has opened up and this will certainly help accumulating fissile inventory at a faster pace," said that press release from the organisers.

"In the meantime, many enabling technologies have been developed for Thorium utilisation. The enabling technologies can lead to balanced thermal ecology, biodiversity, agriculture activities, safety, manage-

ment of long lived radioactive waste etc.

Thorium energy can lead to a stage wherein there is no need to look outwards for meeting energy demands for many centuries, that too without adversely affecting the environment. Thus, a long-term energy security and a clean environment for the country can be achieved," it said.

DH News Service



Deccan Herald 21.08.2016



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INFORMATION BROCHURE ABOUT THE SEMINAR

<p align="center">SDM College of Engineering & Technology, Dhavalagiri, Dharwad - 580002.</p> <p align="center">A seminar on Nuclear Energy- Opportunities and Challenges 20th August 2016</p> <p>REGISTRATION FORM</p> <p>Name:</p> <p>Branch:</p> <p>Institution:</p> <p>Contact Number:</p> <p>E-mail id:</p> <p>Signature of the Applicant</p> <p>Permission Letter</p> <p>Prof. / Mr. / Mrs. of College is permitted to attend the Seminar on Nuclear Energy Opportunities and Challenges to be held on 20th August 2016.</p> <p>Sign. of HOD/ Head of the Institution With seal</p>	<p>CHIEF PATRON Poojya Dr. D. Veerendra Heggade President, SDME Society, Ujire</p> <p>PATRONS Prof. S. Prabhakar, VP, SDMES, Ujire Sri D. Sorendra Kumar, VP, SDMES, B'lore. Prof. N. Vajrakumar, VP, SDMES, Dharwad Sri D. Harshendra Kumar, Secy. SDMES, Ujire. Dr. B. Yashovarma, Secretary, SDMES, Ujire. Sri Shreyas Kumar, Project Director, SDMES. Sri K. Jinendra Prasad, Secy. SDMES, Dharwad. Sri Jeevandhar Kumar, Dy. Secy. SDMES, Dwd.</p> <p>ORGANIZING COMMITTEE Chairman Dr. S. B. Vanakudre, Principal, SDMCET, Dwd. Convener Prof. G. D. Kamalapur, HOD, EEE Dept. Prof. Keshava Joshi, HOD, Chemical Engg. Dept. Members Faculty members & Staff of EEE and Chemical Engineering Departments Coordinators Dr. R. L. Chakrasali, EEE Dept. Prof. Rashmi S. H., Chemical Engg. Dept.</p> <p>ADDRESS FOR COMMUNICATION The Coordinators Department of Electrical & Electronics Engg. and Department of Chemical Engineering, SDM College of Engineering & Technology, Dharwad-580 002. Phone: 9845477797, 9164002200 E-mail: sdmcet.eee@gmail.com</p>	<p align="center">SDM Educational Society, Ujire SRI DHARMASTHALA MANJUNATHESHWARA COLLEGE OF ENGINEERING & TECHNOLOGY DHAVALAGIRI, DHARWAD - 580002 KARNATAKA (An Autonomous Institution Recognized by AICTE, Affiliated to VTU Belagavi, Karnataka)</p>  <p align="center">One Day Seminar on NUCLEAR ENERGY- OPPORTUNITIES AND CHALLENGES Sponsored by TEQIP 1.2</p>  <p align="center">Organized by Department of Electrical & Electronics Engg., Department of Chemical Engg., SDMCET, Dwd. & Nuclear Power Corporation of India Limited, Kaiga Generating Station, Kaiga.</p>
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INSTITUTION PROFILE

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LOCATION

SDMCET is located in Dharwad, along the Poona-Bengaluru National Highway-4. The institute is spread over more than 60 acres of land surrounded by a beautiful picturesque view

and is isolated from the densely populated area thus being conducive for academic activities. It is well connected by road, rail and air to major cities in India. Dharwad is the cultural city of Karnataka and is an excellent educational hub.

ABOUT THE SEMINAR

Energy is one of the key drivers for the development. There is an acute demand for more reliable power supply. One third of the population is not yet connected to any grid. India's priority is economic growth and to alleviate poverty. Thus, nuclear energy is an essential option to satisfy India's and the world's future energy needs. Further, India has an installed electricity generation of 274 GW. Presently it requires 1100 billion kWh of electricity, which may go up to 2,118 billion kWh by 2020-22. It is reasonable to achieve the energy needs from a number of sources. Nuclear power is a resource of clean, reliable, sustainable and cost effective energy. The compelling merits of nuclear power make it an inevitable option for addressing our nation's long term energy needs.

Presently NPCIL is operating 21 Nuclear Power Reactors at six different sites across the nation with an installed capacity of 5680 MW. The country aims to produce 10,080 MW by 2017 using pressurised heavy water reactors, plutonium fast breeder, thorium reactors and

imported reactors, all of which pose no threat of radiation.

OBJECTIVES OF SEMINAR

1. Basics of Nuclear Physics
2. Aspects of Future of Nuclear Energy in India
3. Indigenous Nuclear Reactor
4. Fuel Fabrication
5. Reprocessing of Fuel
6. Regulations and safety

RESOURCE PERSONS

1. Shri K. R. Mohan Ram,
Scientific Officer-G, NPCIL, Kaiga
2. Shri Sangameshwar S. Managanvi,
Scientific Officer-G, NPCIL, Kaiga

TARGET AUDIENCE

Research scholars, PG students, Faculty Members from Engineering Colleges and Practicing Engineers.

NO REGISTRATION FEES

The interested persons are required to download the brochure from www.sdmcet.ac.in and send the filled in registration form duly signed by the Head of the Dept./Institution to the coordinator.

IMPORTANT DATES

Last date for registration: 10th August 2016
Date of seminar: 20th August 2016