

Summary Record of Discussions of the Eighteenth Meeting of Scientific Advisory Committee to the Cabinet (SAC-C) held on 27th August, 2009, at New Delhi.

The eighteenth meeting of the Scientific Advisory Committee to the Cabinet (SAC-C) was held on 27th August, 2009, under the Chairmanship of Dr. R. Chidambaram, Principal Scientific Adviser to the Government of India (PSA to GOI) and Chairman, SAC-C.

The agenda of the meeting and the list of participants are at **Annexure-I** and **Annexure-II** respectively.

M18A1 Opening remarks by the Chairman, SAC-C.

At the outset, the Chairman welcomed the members of the Scientific Advisory Committee to the Cabinet. Thereafter he mentioned that the subject of setting up another Synchrotron apart from Indus-2 was discussed in the Steering Committee on Science and Technology for Eleventh Plan and one of the recommendations was that a detailed project report for a new facility should be made. He also pointed out that DAE has enough experience in constructing synchrotrons and beam-lines and has to be involved. He added that the other topic for discussion would be about the implications of assignments of copyright/licence to publishers by the authors of scientific papers.

M18A2 Discussion on Creation of Next Generation Synchrotron Facility.

Prof. M. Vijayan explained briefly about the principles of a synchrotron source and the differences from x-ray machines. He proceeded to trace the history of development of synchrotron radiation sources within the country and stated that, as already mentioned by chairman, the Steering Committee meeting on Science and Technology for Eleventh Plan held in December, 2006, had arrived at a consensus on synchrotron facilities as follows:

- Constructing more beamlines for Indus - 2
- Acquiring beamlines on Synchrotron Sources Abroad
- Detailed Project Report for a New Facility

For the new beamlines and enhancing the user base of Indus-2, a provision of Rs. 65 crores in the Department of Science and Technology budget was recommended by the Steering Committee. A budget provision of about Rs. 35 crores for enhancing usage of Indian beamlines abroad was also recommended. An amount of Rs. 50 crores was also projected for the preparation of detailed project report for new facility. He brought out that the country should be in step with the outside world and the experiences of DAE, DRDO, ISRO, etc., will have to be used to build a new facility. He also emphasized that capacity building particularly in the area of instrumentation for beam-lines should be planned in advance.

Subsequent to this brief introduction, following presentations were made:

- Working Principles, comparison of well-known synchrotrons, justification for a new Synchrotron based on present demands, resources required for development and maintenance of a third generation facility - Dr. D.D. Sarma, Professor, Solid State and Structural Chemistry Unit (SSCU), Indian Institute of Science Bangalore.
- Details of current and planned MoUs for beam-lines abroad - Dr. Praveer Asthana, Adviser/ Scientist 'G', Department of Science & Technology, New Delhi.
- Discussion on creation of next generation synchrotron facility for Macromolecular Crystallography - Dr. Shekhar C. Mande, Staff Scientist, Center for DNA Fingerprinting and Diagnostics [CDFD], Hyderabad.
- Materials Research in India and need for advanced synchrotron sources - Dr. Milan K. Sanyal, Director, Saha Institute of Nuclear Physics, Kolkata.

- Synchrotron Radiation Sources at RRCAT -
Dr. P D Gupta, Senior Professor, Homi Bhabha National Institute, Outstanding Scientist & Head, Laser Plasma Division, Raja Ramanna Centre for Advanced Technology, Indore.
- Current status in development of Beamlines at Indus - 2 synchrotron -
Dr. S.M. Sharma, Head, High Pressure Physics Division, Bhabha Atomic Research Centre, Mumbai.

During the presentations and subsequent discussions, following details emerged:

- Sufficient demands exist for use of beamlines available abroad and within the country and also for a new third generation synchrotron. Considering the difficulties faced in building Indus-2 and lack of sufficient design capabilities, lot of attention has to be paid in development of man-power particularly for a machine which will come up for use after ten years. Capacity building in the areas of machine physics and engineering, safety and beamline instrumentation needs to be carefully planned and large team building is essential.
- Five beamlines of Indus-1 and two beamlines of Indus-2 are presently operational. Simultaneously efforts are being made to improve beam emittance and correction of closed orbit distortion and addition of more beamlines. A total of fourteen beamlines will be made available in Indus-2 within two/three years. At this stage, Chairman referred to the letter of Chairman, AEC, indicating that the human resources of DAE will be more pre-occupied with these activities than being available for construction of a new synchrotron facility.
- Capacity for building beamlines mostly exists in DAE only. Academia should explore the possibility of increasing this capacity.

After considerable deliberations, it was recommended that a committee be constituted by the Principal Scientific Adviser to the Government of India, Chairman, Atomic Energy Commission and Secretary, Department of Science and Technology for preparation of a detailed report covering the following aspects.

- Estimation of the demand for synchrotron beamtime for the next ten years and its growth pattern.
- Study of present and proposed MoUs for the beamlines abroad and suitable recommendations for maximal utilization.
- Study of current and proposed beamlines of Indus-2 and advise an action plan after taking into account the possible availabilities of beamlines abroad.
- Study of broad specifications for new facility, assessment of human resource required for construction and maintenance and feasibility of creating it within a reasonable time-frame as required by the users. A national enterprise or a suitable business model for implementing the proposal in a mission mode may also be considered. Experience of DAE should be taken into account while preparing this detailed project and feasibility report.

M18A3 Discussion on Intellectual Property Rights and Related Issues in the Context of Publications by Scientists.

The Chairman, at the outset, had mentioned that the presentation should focus more on the loss of rights of authors/institutions and on other implications while assigning copyright/ license to publishers and not on general topics like open access, etc.

During the presentation by Dr. Prabuddha Ganguli, Scientific Consultant (Innovation and IPR issues), Office of the Principal Scientific Adviser to the Government of India and the ensuing discussions, following details emerged:

- There is a need to harmonise the copyright rules of various departments of Government of India.
- Clear guidelines need to be evolved for IP rights of privately funded foreign and Indian projects of public academic institutions.
- Study of implications of assigning copyrights on the interests of authors, institutions and on the country in the context of copyright laws of different countries.
- Awareness for institutional archives should be created among scientific community and sufficient funding to be provided by the government funding agencies for creation of such archives before archiving is made mandatory.
- Negotiation with publishers on copyrights needs to be initiated by government funding agencies. This should cover price aspects also. Inclusion of suitable addendum to copyrights should also be in the scope of negotiations.
- The copyright guidelines which may be framed as a result of these studies and negotiations should take into account the prime aspect of freedom of authors to publish in any journals they wish to.

It was decided that a preliminary note covering following aspects need to be prepared by Dr. Ganguli for further reviews as indicated.

Copyright for publishing	To be reviewed by Prof. P. Balaram, Director, Indian Institute of Science, Bangalore
IP related issues	To be reviewed by Dr. S. Sivaram, Director, National Chemical Laboratory, Pune
Harmonisation of Government policies on copyrights and IP	Dr. Samir K. Brahmachari, Secretary, DSIR & DG, CSIR, New Delhi and Prof. Asis Datta, President, The National Academy of Sciences, Allahabad

For preparing this preliminary note, Dr. Ganguli was requested to consult other subject specialists also.

M18A4 *Any other item with the permission of the Chair.*

Pursuant to decision taken in the 15th meeting of the SAC-C a committee was constituted under the Chairmanship of Dr. Juzer Vasi, Professor, Indian Institute of Technology Bombay, to study the growth of semi-conductor industry in India. A report titled “Catalyzing the Growth of the Semiconductor Ecosystem in India” submitted by the committee was circulated among the members. SAC-C endorsed recommendations made in the report.

The meeting ended with a vote of thanks to the Chair.

Eighteenth Meeting of the Scientific Advisory Committee to the Cabinet (SAC-C)

Date : 27th August, 2009.
Time : 1030 hrs.
Venue : Committee Room 'A', Vigyan Bhawan Annexe, New
Delhi.

Agenda

- M18A1** Opening remarks by Chairman, SAC-C.
- M18A2** Discussion on Creation of Next Generation Synchrotron Facility.
- M18A3** Discussion on Intellectual Property Rights and Related Issues in the Context of Publications by Scientists.
- M18A4** *Any other item with the permission of the Chair.*
- M18A5** Concluding remarks by the Chair.

List of participants of the eighteenth meeting of the Scientific Advisory Committee to the Cabinet (SAC-C)

1.	Dr. R. Chidambaram, Principal Scientific Adviser to the Government of India, Vigyan Bhavan Annexe, Maulana Azad Road, New Delhi - 110011
2.	Dr. Padmanabhan Balaram, Director, Indian Institute of Science, Bangalore - 560 012
3.	Dr. B. K. Gairola, Director-General, National Informatics Centre, Department of Information Technology, Ministry of Communications and Information Technology, A-Block, CGO Complex, Lodhi Road, New Delhi - 110003
4.	Dr. Rohini M. Godbole, Centre for High Energy Physics, Indian Institute of Science, Bangalore - 560 012
5.	Prof. S.K. Joshi, Vikram Sarabhai Professor & Honorary Emeritus Scientist, 252, National Physical Laboratory, Dr. K.S. Krishnan Marg, New Delhi - 110 012
6.	Dr. Debashis Mukherjee, Director, Indian Association for Cultivation of Sciences, 2A & 2B, Raja S.C. Mullick Road, Kolkata - 700032
7.	Prof. Vijayalakshmi Ravindranath, Professor and Chairman, Centre for Neurosciences, Indian Institute of Science, Bangalore - 560012
8.	Dr. Seyed Ehtesham Hasnain, Vice-Chancellor, University of Hyderabad, Central University P.O., Gachibowli, Hyderabad - 500046 (A.P.)
9.	Dr. S. Sivaram, Director, National Chemical Laboratory (NCL), Dr. Homi Bhabha Road, Pune - 411008
10.	Prof. Pramod Tandon, Vice-Chancellor, North-Eastern Hill University, Shillong - 793022
11.	Dr. Juzer Vasi, Professor, Indian Institute of Technology, Bombay, Powai, Mumbai - 400076
12.	Dr. M.K. Bhan, Secretary, Department of Biotechnology, CGO Complex, Block No. 2, Lodhi Road, New Delhi - 110 003
13.	Dr. Samir K. Brahmachari, Secretary, DSIR & DG, CSIR, Anusandhan Bhawan, Rafi Marg, New Delhi - 110 001
14.	Dr. V. M. Katoch, Secretary (Department of Health Research) & Director-General, Indian Council of Medical Research, Post Box No. 4911, Ansari Nagar, New Delhi
15.	Dr. T. Ramasami, Secretary, Department of Science & Technology, Technology Bhawan, New Mehrauli Road, New Delhi - 110 016

16.	Prof. M. Vijayan, President, Indian National Science Academy, 2, Bahadur Shah Zafar Marg, New Delhi -110 002
17.	Prof. Asis Datta, President, The National Academy of Sciences, India, 5, Lajpatrai Road, New Katra, Allahabad - 211 002
18	Prof. S.K. Thorat, Chairman, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi - 110 002
19.	Sh. K.V.S.S. Prasad Rao, Chairman, National Technical Research Organization, Block No. 3, 4 th Floor, Old JNU Campus, New Delhi - 110016
20.	Sh. R.K. Bhasin, Joint Director (Projects), Associated Chambers of Commerce & Industry (ASSOCHAM),1, Community Centre, Zamrudpur Kailash Colony, New Delhi - 110 048
21.	Prof. Prabuddha Ganguli, Scientific Consultant (Innovation and IPR issues), Office of the Principal Scientific Adviser to the Government of India, 201, Sunview Heights, 262, Sher-e-Punjab, Andheri East, Mumbai - 400093
22.	Dr. V. Siddhartha, Scientific Consultant (Advanced Technologies), Office of the Principal Scientific Adviser to the Government of India, 831, DRDO Complex, Asiad Village, New Delhi-110049
23.	Dr. S.K. Sikka, Scientific Consultant (Strategic Systems), Office of the Principal Scientific Adviser to the Government of India, Vigyan Bhawan Annexe, Maulana Azad Road, New Delhi - 110011
24.	Dr. Milan K. Sanyal, Director, Saha Institute of Nuclear Physics, 1/AF, Bidhannagar, Kolkata - 700 064
25.	Shri R Saha, Consultant, TIFAC, Vishwakarma Bhavan, 'A' Wing, Shaheed Jeet Sing Marg, New Delhi - 110016
26.	Dr. S.M. Sharma, Head, High Pressure Physics Division, Bhabha Atomic Research Centre, Trombay, Mumbai - 400085
27.	Dr. D.D. Sarma, Professor, Solid State and Structural Chemistry Unit (SSCU), Indian Institute Of Science Bangalore - 560 012
28	Dr. Subbiah Arunachalam, Visiting Professor, Institute of Mathematical Science, Chennai - 600113
29.	Dr. Shekhar C. Mande, Staff Scientist, Center for DNA Fingerprinting and Diagnostics [CDFD], Bldg. 7, Gruhakalpa, 5-4-399 / B, Nampally, Hyderabad - 500001
30.	Dr. P D Gupta, Senior Professor, Homi Bhabha National Institute, Outstanding Scientist & Head, Laser Plasma Division, Raja Ramanna Centre for Advanced

	Technology, Indore - 452 013
31.	Shri R.R. Abhyankar, Adviser/ Scientist 'G', CSIR, Anusandhan Bhawan, Rafi Marg, New Delhi - 110003
32.	Dr. S.K. Deb, Head, Indus Synchrotrons Utilization Division, Department of Atomic Energy, Raja Ramanna Centre for Advanced Technology, Indore - 452013
33.	Dr. C.K. Pithawa, Outstanding Scientist and Incharge, Indus Accelerator Complex, Department of Atomic Energy, Raja Ramanna Centre for Advanced Technology, Indore - 452013
34.	Dr. Praveer Asthana, Adviser/ Scientist 'G', Department of Science & Technology, Technology Bhawan, New Mehrauli Road, New Delhi - 110 016
35.	Shri B. Rajendiran, Adviser, Office of the Principal Scientific Adviser to the Government of India, 313, Vigyan Bhawan Annexe, Maulana Azad Road, New Delhi - 110011
36.	Dr. R.P. Gupta, Scientist 'E', Office of the Principal Scientific Adviser to the Government of India, 313, Vigyan Bhawan Annexe, Maulana Azad Road, New Delhi - 110011
37.	Dr. Ketaki N. Bapat, Scientist 'D', Office of the Principal Scientific Adviser to the Government of India, 313, Vigyan Bhawan Annexe, Maulana Azad Road, New Delhi - 110011