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My dear colleagues, I am very happy to communicate with all of you through this Newsletter. I wish you and your families a healthy and prosperous New Year-2016. The year 2015 had been very eventful for AMD. I am extremely happy to inform that the total uranium inventory of the country has reached up to 2,29,936t uranium oxide. In Rare Metal and Rare Earth (RMRE) investigations, besides exploring the pegmatite belts and their gravel, we could establish the RMRE potential of some of the acidic intrusive-extrusive complexes and carbonatite suites. In Beach Sand and Offshore Investigations (BSOI), we have successfully tested the “Sonic Drilling”, which will significantly augment the heavy mineral resources of the country. Several perceptible achievements could be observed in all the spheres of our activities. The strategy of intensifying exploration in thrust areas for immediate augmentation of uranium resources and developing potential sectors for future is on a high pedestal. Our Analytical and Allied Groups in the Headquarters and the Regional Centres are doing their best towards achieving our mandate. I am happy to see the all-round growth of AMD and proud to be a part of its achievements. I am laying down my office on 31st December, 2015 and Dr. A.K. Rai is taking over as Director, AMD. I wish him all success.

I hope that this edition of the Newsletter covering the activities of AMD in 2015 will be interesting to everyone.

AMD HAS NEW DIRECTOR

Dr. A.K. Rai, Outstanding Scientist and Additional Director has assumed the office of the Director, AMD w.e.f. 31st December, 2015. Glimpses of the occassion and farewell function of Shri P.S. Parihar on superannuation are presented below:
My dear Colleagues,

I wish you all a happy and prosperous New Year-2016. The multidisciplinary exploration strategy of AMD has evolved over the years, based on the distribution of known uranium occurrences and provinces, geological analogy, time bound characteristics and various conceptual models. Keeping this in mind, we are judiciously deploying our resources in the thrust and potential areas of uranium investigations for the fulfillment of our mandate. AMD’s progress in the XII Plan has been satisfactory. We have already augmented 54,926t of uranium oxide which is closer to the committed target of 75,000t and hope to achieve the target well before the end of the current plan period. Our achievements in some of the thrust areas merits special mention. The Tummalapalle uranium deposit in Andhra Pradesh has become one of the largest deposits of the world with more than 1,00,000t uranium oxide where only a part of this deposit has been explored till now. In Singhbhum Shear Zone (SSZ), though the mineralisation is of low grade, exploration activities are being continued in the newly identified deposits to bring them into exploitable stage which will extend the life of currently operating mines at J aduguda and Narwapahar. The integrated, multi-disciplinary exploration in the North Delhi Fold Belt (NDFB) has led to the emergence of several potential sectors along the extension areas of Rohil uranium deposit in the albite line. In Mahadek Basin, our strategy to establish the presence of Mahadek sediments below the Tertiary cover has been successful at Nongjri and a vast area is now available for subsurface exploration. In Bhima basin, apart from Gogi uranium deposit, another deposit at Kanchankayi has been established in similar geological setting and current exploration is concentrated to connect them. We are also focusing our exploration on developing some of the potential sectors namely Nalpani in Dongargarh-Kotri belt and Devri in Central Surguja Shear Zone, Chhattisgarh; Rambas in NDFB of Haryana; Satpura Gondwana basin, Madhya Pradesh; Narendranagar-Shivpuri sector of Garhwali Syncline, Uttarakhand; Dharmapuri Shear Zone, Tamil Nadu and Kaladgi basin, Karnataka.

In my opinion, exploration activities of AMD may be grouped into three categories namely: **Category-I:** Present thrust areas, e.g. Tummalapalle, SSZ, Mahadeks, Rohil, and Gogi where 50-60% of the Region’s resources may be associated for exploration to augment reserves in extension areas. **Category-II:** Potential target areas where substantive work on geological mapping, ground and airborne-geophysics and geochemical mapping has already been carried out. Approximately 20-30% of the Region’s resources may be associated with this category. **Category-III:** New potential/virgin areas selected by conceptual modelling through R & D mode to be developed as future targets, where 10-20% of the Region’s resources may be deployed.

In RMRE exploration, our strategy to explore deeper parts of the mineralised pegmatites by drilling has been successful and we are also exploring the late stage magmatic suites and carbonatites. The alkaline complexes of Rasimalai and Pakkanadu in Dharmapuri shear zone, carbonatites of Ambadongar, Gujarat and felsites of Siwana Ring Complex are being developed as Uranium-RM-REE deposit. AMDs attempt to drill beyond 12m by sonic drilling, upto a depth of 50m for heavy mineral beach sand bodies in the Neendakara-Kayamkulam deposit is successful. Utilisation of this technique in many of the known beach placer deposits will significantly
The achievements of Drilling Group are commendable and their accomplishment is appreciated by many exploration agencies like GSI, MECL, NMDC and DGM of states and DAE, in particular. I must say that, this accomplishment has been made possible only due to the dedication and sincerity of our drilling personnel. Our laboratories in the Headquaters and the Regional Centres are ably supporting and matching with the pace of exploration and I expect same commitment from them in all our future endeavours. I am happy to mention here that the Chemistry laboratory at Headquaters is ready for NABL accreditation which itself is a testimony to our established analytical standards. We are constantly modernising our laboratory facilities in tune with our growing needs. New WD-XRFs will start functioning in SR, WR and CR. Besides, IRMS, QEMSCAN and EPMA will be operational in Headquarters in a short span of time.

Our contribution to uranium and other atomic minerals exploration has been widely recognised by DAE and other geoscientific organisations of the country. In 2015, we have received Life Time Achievement Award, Mantri Pragada S'laddevi Award and G.R.Udas-K.Dwivedi Medal (Indian Society of Applied Geochemists - ISAG), Indian Nuclear Society Award for Meritorious Service, DAE-Group Achievement Award and Meritorious Service Award, S.M.Ramananda Setty Award (Mineralogical Society of India) and N.N.Chatterjee Award (Geological Society of India). We are committed to DAEs initiative of massive Public Outreach Mission. Our colleagues are taking it to grass root levels. DAEs message of peaceful uses of atomic energy is spread through local languages and vernacular dailies. I am happy to see the overall growth of AMD from a nascent stage to a fully-fl edged, result and growth oriented multi-disciplinary exploration organisation.

ACHIEVEMENTS: ANNUAL PROGRAMME 2014-15

The exploration activities of AMD are on a high pedestal, resulting in the annual incremental achievements during XII five year plan. The highlights of achievements during the Annual Programme (concluded on 31st October, 2015), are listed below.

- 15,778t additional in-situ U$_3$O$_8$ has been established thus enhancing country’s total uranium reserve to 2,29,936t (XII Plan Achievement 54,926t U$_3$O$_8$; Target: 75,000t U$_3$O$_8$).
- Reconnaissance (6,552 sq km) and detailed (289.30 sq km) surveys have helped to discover promising uranium occurrences at (i) Pudur (upto 0.12% U$_3$O$_8$), Krishnagiri district, Tamil Nadu associated with pink syenite, (ii) Bariyari and Mohara Nala (upto 0.036% U$_3$O$_8$), Karwi district, Uttar Pradesh associated with sandstone of Kaimur Group, (iii) Goth (upto 0.021% U$_3$O$_8$), Tehri-Garhwal district, Uttarakhand associated with fractured/brecciated argillaceous limestone of Krol-E Formation, (iv) Ballabadi (upto 0.057% U$_3$O$_8$), Mayurbhanj district, Odisha associated with QPC, (v) Ampuli (upto 0.072 % U$_3$O$_8$), Papum Pare district, Arunachal Pradesh associated with mica schist of Bomdila Group and (vi) Kumkal (upto 0.20% U$_3$O$_8$), Chhindwara district, Madhya Pradesh associated with sheared silicified zone within pink granites.
- 83,801.45m drilling by 35 departmental rigs and 1,06,784m drilling on contract has been carried out for uranium investigations. In addition, 4,000m drilling (on contract) has been carried out for rare metal and rare earth investigations. (Total drilling: 1,94,585.45m).
- Geochemical survey (4,040 sq km) has helped in demarcation of hydro-geochemical halos in Pokhran (U upto 712ppb), Jaisalmer district and Hanumangarh (U upto 700 ppb), Hanumangarh district, Rajasthan.
- Heliborne geophysical survey has been carried out over 42,560 line km in parts of Aravalli Fold Belt, Rajasthan and Kaladgi-Bhima basins, Karnataka. Ground geophysical surveys (regional 492 sq km and detailed 68 sq km) helped in identification of conducting zones in Dhanota-Dhancholi, Haryana and high chargeability zones in Dornahalli-Halbhavi, Karnataka and Gurgulpada & Banaykela, Jharkhand.
- Rare Metal and Rare Earth investigations have been carried out by reconnaissance (940 sq km) and detailed (5 sq km) surveys in pegmatitic belts of Karnataka, Rajasthan, Odisha, Chhattisgarh and Andhra Pradesh. 3,820 kg of Nb-Ta ore (Marlagalla, Pandikimal & Bodenar), 1,850kg of beryl (Bodenar & Pandikimal) and 7,000kg of xenotime concentrate (Siri River) have been recovered.
- Beach Sand and Offshore Investigations carried out by reconnaissance (342 sq km) and detailed (8.69 sq km) surveys have resulted in establishment of Total Heavy Mineral (THM) rich zones at (i) Bendi Creek-Mela Ganguvada (1.6-41.4%) and Metturur-Sompeta-Ichapuram (6-10%), Andhra Pradesh; (ii) Arjipalli - Agastinuagoan (1.1-68%), Odisha and (iii) Naripaiyur - Valinokkam coast (0.5-49.8%), Tamil Nadu. The country’s total heavy mineral resources stand at 1,064.79 million tonnes. Further, 889m of core (sonic) drilling has been carried out for exploration of beach sand minerals.
- All the Analytical and Allied Groups in Headquarters and Regional Centres have fully achieved the targets.
पखिन प्रबंधन परिषद का पुनर्गठन

RECONSTITUTED COUNCIL OF MANAGEMENT OF AMD

1. श्री शेकर बासु, चार्जमैन, AEC और सी.टी., दी.ए.ई. चेयरमैन
2. डॉ. ए.के. सुरी, पूर्व सी.डी. ग्रुप, बारसी को-चेयरमैन
3. श्री सनीजे मूड, जी.टी.सी. (I&M), दी.ए.ई. सदस्य
4. श्री ए.एम. राजेव, जी.टी.सी. (F), दी.ए.ई. सदस्य
5. श्री डी. अचायया, चेयरमैन और मैनेजिंग डिरेक्टर, UCIL सदस्य
6. श्री दीपेंद्र सिंह, चेयरमैन और मैनेजिंग डिरेक्टर, आरएल सदस्य
7. डिरेक्टर, स्टेट जिओफ्फिशियल रिसर्च इंस्टीट्यूट (नी.जी.आर.आई.) सदस्य
8. डॉ. ए.ए.एस. राममौथर्थ, आर.टी.ए.डी. टी.एच. चेयरमैन सदस्य
9. श्री र.एम. सिन्हा, पूर्व फीडर डिरेक्टर, एमडी सदस्य
10. श्री ब. रामेश कुमार, पूर्व एमडी, एनएमडी सदस्य
11. डॉ. स.के. वर्माए, रजारमना से.ए.एन.ए.एए. चेयरमैन सदस्य
12. श्री रावी प्रकाश वर्मा, पूर्व डी.एफ. डी.एच. चेयरमैन सदस्य
13. डॉ. ए.के. चाक्रवर्त्ती, डिरेक्टर, मैटरियल्स ग्रुप, बारसी चेयरमैन सदस्य
14. श्री पी.सी.परिहार, डिरेक्टर, एमडी सदस्य
15. डॉ. ए.के. राय, एडी.के.एडी.एक्स.ई. डिरेक्टर, एमडी सदस्य
16. डॉ. ए.के. मोहन्ती, एडी.के.एडी.एक्स.ई. डिरेक्टर, एमडी सदस्य
17. श्री ल.के. नान्दा, एडी.के.एडी.एक्स.ई. डिरेक्टर, एमडी सदस्य
18. डॉ. ए.के. चटर्वेडी, एडी.के.एडी.रडी. डिरेक्टर, एमडी सदस्य
19. डॉ. ए.के.सिन्हा, हेड, प्लांनिंग और मैनेजमेंट सर्विस ग्रुप, एमडी नोनमेंबर सी.टी.एच. चेयरमैन सदस्य

पखिन में संसदीय राजभाषा समिति का दौरा

VISIT OF PARLIAMENT COMMITTEE ON OFFICIAL LANGUAGE TO AMD

राजभाषा अधिनियम, 1963 के अनुसार गठित माननीय संसदीय राजभाषा समिति की पहली उप समिति के अंतर्गत अवमा जनार्दन के कार्यालय आते हैं। माननीय संसदीय राजभाषा समिति की पहली उप समिति के साथ-साथ चुनावी दलों के संस्थापक में अवमा जनार्दन अब्बेल और अनुसार के निर्देश पर, यह दिवालक्के के सी.डी. तथा राजभाषा अधिकारी अनुसार भाग ले। यह दो क्षेत्रों में हैं: दिवालक्के (15 जनवरी, 2015), पक्की खेती, जयपुर (06 फरवरी, 2015) तथा फार्वरी सेंटर, हैदराबाद (04 नवंबर, 2015) में 'राजभाषा हिंदी कार्यन्वयन' का निरीक्षण किया गया।

उपरोक्त सभी निरीक्षणों में पखिन, मुद्दात्तल के प्रश्नपत्र के रूप में दो ए.के. राज, अपर निदेशक एवं तृतीयक, राजभाषा कार्यन्वयन समिति, श्री ए.एस. लक्ष्मण राज, मुद्दा प्रश्नपत्रिका के लेख अधिकारी और उपसहायक निदेशक (राजभाषा) ने राजभाषा हिंदी के कार्यन्वयन संबंधी प्रश्नों को प्रश्न पत्र में दिया।

क्षेत्रीय कार्यालयों से वह व्यक्ति के क्षेत्रीय निदेशक एवं उप-क्षेत्रीय निदेशक तथा अन्य वरिष्ठ अधिकारियों ने भाग लिया। समिति ने बाहरी के कार्यन्वयन के संबंध में ध्यान देने के क्रम में, कृषि और सन्तान के अनुपालन के संबंध में कक्षा दीं और बैठक के आयोजन संबंधी व्यवस्था के लिए पढ़ाने के अधिकारियों को जन्मदिन दिया।
During the middle of the last decade, DAE assigned a mammoth target of establishing 75,000t uranium oxide in XI plan. To accomplish the task, our primary concern was to establish uranium resources in the thrust areas by tracing their continuity and also to develop potential sectors as early as possible. Hence the XI Plan projects were designed in such a way that several advancements / changes had to be brought both in the technological aspects and also in the work culture. Two important aspects which we thought would give the necessary fillip to the ambitious exploration programme were increasing the quantum of drilling in the potential sectors and effective utilization of the geophysical (heliborne and ground) techniques.

The drilling output (around 40,000m/year), during middle of the last decade was not matching with our vision and therefore the drilling resources had to be augmented swiftly to increase the productivity by at least 2 times (more than 80,000m). The paradigm change in drilling productivity was brought about by the procurement of hydrostatic drilling units and outsourcing major part of drilling. In the case of departmental drilling, ‘dawn to dusk’ system was made effective in many areas and in order to make this system functional, complete overhauling of the procedures of purchase, storage and distribution of accessories was done. Further, to encourage drilling personnel, the award of “Rolling Trophy” to best productive drilling rigs was instituted. These measures enhanced our drilling productivity greatly. In the case of contract drilling, procedures were streamlined, which led to an unprecedented rise in the quantum (more than 1,00,000m per year at competitive cost), during the past decade. Now, more than 1,80,000m drilling/year is easily achieved in AMD, which has become a benchmark for the other exploration agencies in the country. It is pertinent to mention here that it is not only the improvements brought about in the drilling sector but also the dedication and sincerity of our drilling personnel that has made this accomplishment possible. These achievements have been aptly recognized by the department by conferring DAE Group Achievement Award to four of our drilling units in last five years.

The importance of geophysical inputs in our exploration programme particularly for deep seated targets, was rightly recognized during the formulation of XI plan projects and we could not cater to the growing needs with our small Exploration Geophysics Group. An ambitious programme for heliborne and ground geophysical surveys was thus envisaged. We required modern instrumentation and trained personnel for data acquisition and processing. This initiated the need of a training school based on AMD’s requirement which DAE has approved in XI plan. Creation of a new infrastructure facility was, therefore approved in XI plan period at Cherlapally, Hyderabad. This is ready for occupation now. Many of the young geologists were given training in geophysics and new geophysicists were recruited, besides procuring state-of-the-art heliborne and ground geophysical instruments. Presently, high quality heliborne geophysical data is available for most of our thrust areas and processing of the data is nearing completion. Along with heliborne / ground geophysical data, the Geographical Information System (GIS) has facilitated the integration of digital geophysical data with vector and raster information. Nowadays, exploration targets are being invariably prioritized based on the interpretation of geophysical data in major thrust areas. The heliborne geophysical data products coupled with the ground geophysical data have been particularly useful for exploration in potential sectors of North Delhi Fold Belt, North Singhbhum Mobile Belt, Bhima and Kaladgi basins. In addition, gravity gradiometry for precise delineation of the targets and Z-TEM and AFMAG for obtaining information from deeper causative bodies will be put into use shortly. Further, hyperspectral technique will be utilized for delineation of alteration zones associated with mineralisation and subsequent target selection.

The Atomic Minerals Directorate for Exploration and Research has established itself as one of the premier geoscientific organizations in India. In the endeavour to establish large tonnage-high grade uranium deposits and achieve self-sufficiency in uranium and other atomic mineral resources, the Directorate has reached several important milestones during the last decade, and is also constantly striving to maintain the momentum. Several perceptible advancements have taken place during this period in various frontiers of exploration for atomic minerals. I would like to share some of my fulfilled targets for the Directorate which were envisioned for achieving self-sustenance and greater laurels.
The modified approach in exploration in the thrust areas has been largely successful in proving additional uranium resources especially in the southern and northern parts of Cuddapah basin namely the Tummalapalle, Lambapur, Peddagattu and Chitriar sectors, Singridungri-Banadungri-Bangurdih in Singhbhum Shear Zone and Nongjri-Kulang in the Mahadeks, to name a few. Besides, the changes in the exploration models have proved successful in some of the potential sectors such as Nalpani in Dongargarh-Kotri belt, where a small uranium deposit is likely to be established. In Bhima basin, the integrated exploration by geological, ground and heliborne geophysical surveys and extra-departmental logging have enhanced the probability of sizeable deposits.

In many countries, the low grade deposits which are amenable for easy mining and extraction are being economically exploited. Keeping this in view, a paradigm shift was made in exploration strategy which resulted in opening of several sectors having potential for such deposits. In this direction, exploration is in full swing in Rasimalai sector of Dharmapuri Shear Zone, Devri sector in Central Surguja Shear Zone and Narendranagar-Shivpuri sector in Garhwal Syncline. The preliminary results in these sectors are encouraging and show potential for multimetal mineralisation including uranium, REE and Nb-Ta. The Gondwana basins are known to host sandstone type of uranium deposits world wide viz. Karroo Group of the African continent. A detailed exploration strategy, including heliborne and ground geophysical surveys, has been envisioned to assess the uranium potential of the Gondwana basins in India. Preliminary results in Satpura Gondwana are encouraging.

The approach towards exploration for RMRE deposits has also seen several changes over the years. Reconnoitry drilling to probe deeper parts of the mineralised pegmatites was carried out in addition to the exploration over weathered cover. In the pursuit of exploring the possibility of RMRE deposits, surveys were followed by reconnitory drilling in the carbonatites of Ambadongar, Gujarat and Pakkanadu in Dharmpuri Shear Zone, Tamil Nadu and felsites of Siwana Ring Complex, Rajasthan. Such initiatives have conclusively established the RMRE potential of these geological domains.

Exploration for beach sand heavy minerals has witnessed discernable changes in the last few years. Beach sand exploration has now grown in to a multi-disciplinary activity involving remote sensing, coastal dynamics, geophysics, sedimentology and paleo-climatology. Delineation of paleo-strand lines using multi spectral remote sensing techniques has aided in exploration in the mainland besides the coastal areas. Successful utilization of sonic drilling for obtaining samples beyond 15m depth, has given us a big impetus for the exploration of beach sand deposits and will significantly augment the heavy mineral resources. Report submission is an important part of the beach sand exploration for constantly updating our resource figures. During the last decade, 54 beach sand heavy mineral deposit reports have been submitted and at present, no reports are pending. The reports have been archived in a specially designed database named “SANDBASE”.

The analytical capabilities have witnessed noticeable advancements during recent years. The Physics Group is now capable of assaying uranium up to trace level in geological samples using high resolution HPGe detectors and several major and trace elements using INAA technique. They are also successful in fabricating portable calibration pads for their easy transport to various helibases in the country. The chemical laboratories of AMD are equipped with state-of-the-art instruments for estimation of uranium up to ppt level and most of the other elements up to ppm level. The accreditation of Chemistry Laboratory at Hyderabad by National Accreditation Board for Laboratories (NABL) is itself a testimony to the high standards of our analytical capabilities. All the petrological laboratories are equipped with modern petrological microscopes fitted with image analyzing software which gives new dimensions to our exploration. Three WD-XRF instruments one each at Nagpur, Jaipur and Bengaluru will be operationalized shortly. A modern IRMS unit will be commissioned soon at Hyderabad for the precise estimation of isotopic ratio of stable isotopes in geological samples. Our field personnel are now regularly using the portable multi-channel gamma-ray spectrometers, instead of the traditional scintillometers and GM counters. A remarkable achievement by the Instrumentation Group which deserves a special mention is the design, development and fabrication of two variants of borehole camera survey systems. We are also procuring portable XRFs for onsite estimation of the major and trace elements and modern QEMSCAN system for quick identification and quantification of beach sand minerals.

Establishment of BARC Training School, AMD Campus (BARCTS) has been the “dream come true” for the Directorate during the past decade. The necessity of quality induction training for the newly recruited geologists and geophysicists was recognized long back and after a lot of persuasion, DAE agreed to start training school for AMD as already mentioned. Now, the young geologists and geophysicists from the training school are actively involved in exploration in various parts of the country and coming out with innovative ideas.

Mineral prospecting is a dynamic process and we are mostly carrying out brown field exploration. The inputs of previous exploration data in any geological domain is a prerequisite and we were not comfortable in this aspect.
To overcome this impediment, an ambitious mission is in progress to integrate all the available exploration data of the Directorate since its inception in the Enterprise Level Geospatial Data Base Management System (EGDBMS).

In accordance with the growth of the Directorate, infrastructure facilities are constantly being improved in the Headquarters and in various Regional Centres. Significant among them are construction of separate block for South Central Region at Hyderabad, Training School and Core library facilities at Cherlapally, Hyderabad, expansion of office complex at Bengaluru, establishment of a laboratory complex at Kolkata, etc.

Several R&D projects are being executed every year, in order to update the knowledge on the genetic aspects of mineralisation. This initiative has been particularly productive and in the recent years we are able to discern the genetic aspects of uranium mineralization. The BRNS projects have provided an ideal platform for our scientists to interact closely with the academicians and discuss the pertinent issues related to exploration of atomic minerals.

Several subtle yet significant changes have been brought in the work flow of AMD during the past decade. For effecting paperless office system, most of the technical and non-technical correspondences are carried out electronically nowadays. Since last two field seasons, all the assignments carry unique codes which will be very useful in future correspondence and also for tagging in the geospatial database management system. In the recent years, timely release of the Annual Programme and Achievement Report have been ensured, besides another comprehensive report, which includes the activities of the Directorate during the Annual Programme in the form of Annual Report. The old Annual Programmes (1957-2015), Annual Reports and Special Reports have been digitised, bar coded and uploaded in PMSG LAN for sharing through secured net. The video-conferencing system established recently in Headquarters and Regional Centers, is one of the best in DAE utilising ANUNET and BSNL facilities for communicating with the officials of all levels working in various parts of the country on regular basis and DAE officials.

It is our societal responsibility to not only remove the fear of possible hazardous effects of atomic energy from public perception but also convey its peaceful uses. The Directorate, having an added advantage of presence all over the country and personnel working in remote areas, is contributing immensely to the Department's mandate of massive public outreach programmes. During the last decade, nearly 30-40 public awareness programmes every year have been conducted in various parts of the country.

It is pertinent to mention here that the changes brought in AMD, appropriately supported by the technological advancements have led to the establishment of 1,38,912t U\textsubscript{3}O\textsubscript{8} (60% of total resources since inception), 181.08 Mt heavy minerals and 28.83t columbite-tantalite and 60.96t xenotime during the last decade. AMD is growing from strength to strength. Now, our efforts are focused on sustaining the momentum. With the kind of knowledge pool we possess and the technological advancements, the dream of establishing large tonnage and high grade uranium deposits and making our country self-sufficient in atomic mineral resources will be realized soon.

I wish my colleagues in AMD, success in all their endeavours.

**CURRENT EXPLORATION STRATEGY AND FUTURE PROSPECTS OF ATOMIC MINERALS IN CENTRAL INDIA**

**Amit Majumdar**

Central Indian Precambrian Shield (CIPS), comprising a wide spectrum of lithounits ranging in age from Archaean, represented by older granitic gneisses with enclaves of TTG suite to Quaternary alluvial placers, clay and laterites with a time span of about 3000 Ma, thereby provides ample scope for geological studies and mineral exploration. The CIPS comprises two major cratons viz. the Bundelkhand and Bastar, with two intersecting belts i.e.EENE-WSW trending Sausar and N-S trending Dongargarh-Kotri Belt. The CIPS has undergone multiple tectonic deformations culminating in the formation of the Central Indian Suture (CIS). Extensional tectonics in this region has resulted in the
formation of Late Archaean-Proterozoic basins, viz., the Mahakoshal, Betul, Bailadila, Dongargarh-Kotri, Sakoli with typical signatures of rifting subsequently. The other younger basins viz Abhujmar, Khairagarh, Indravati, Kharaiar, Sukma, Chhattisgarh, Pakhal, Sullavai and Ampami are characteristic of platform sedimentary sequences and are mostly less deformed.

Exploration for atomic minerals in CIPS was initiated during early sixties in all the geological environments which has resulted in establishing small scale, low grade uranium deposits associated with Paleoproterozoic amphibolites at Bodal-Bhandaritola in Rajnandgaon district, Paleoproterozoic granite cataclasite / sheared migmatite at J ajawal-Dumhat area in Surguja district, Chhattisgarh and Proterozoic sandstone type uranium deposit associated with Bortalao sandstones of Khairagarh Group at Mogarra-Malharbodi area, Gondia district, Maharashtra.

Conceptual exploration based on remote sensing, geological, geochemical and geophysical surveys have resulted in identification of vein type, unconformity associated, Iron Oxide Breccia hosted, volcanogenic uranium occurrences in various countries. These findings necessitated reorientation of our exploration strategy in CIPS especially in the Surguja Crystallines and Dongargarh-Kotri belt, with greater emphasis on locating unconformity associated uranium mineralisation between Paleoproterozoic basement rocks and Meso-Neoproterozoic cover sediments. These renewed efforts have paid rich dividends in establishing potential horizons in Chitakholi-Renkhol in Chhattisgarh basin, Nalpani in Khairagarh basin and Kanhari in Chilpis. In Nalpani, epigenetic fracture controlled uranium mineralisation hosted in the Bortalao cover sediments and the underlying Pitepani Volcanics, has already been established over a strike length of 900m, with uraninite, brannerite and coffinite forming the major radioactive phases. In Devri-Pakni-J ajawal sector in the North Surguja crystallines, sub-surface exploration has resulted in establishing significant low grade uranium mineralisation over a stretch of 1800m up to a vertical depth of 300m, with uraninite and pitchblende as radioactive phases. Ground magnetic, TEM and IP surveys have yielded significant results in identifying potential targets for subsurface exploration in the areas further west of the ongoing exploratory block at Devri. The Proterozoic basins of CIPS have also shown potential for QPC and IOB type of uranium mineralisation at the base of Bailadila Group in the environs of Banded Iron Formation and along Kotri Rift Zone respectively. Signatures of sedimentary type uranium mineralisation have also been identified in the Lower Gondwana Formations at Polapather-Bhawra area, Betul district, Madhya Pradesh. Recent surveys in the Betul crystallines have resulted in identifying major WNW-ESE trending shear zones close to the contact with Lower Gondwana sediments, around Kumkal-Pachdar-Gayagaon sector, which recorded high order uranium mineralisation in the granitic intrusives forming the basement. This has opened up a potential horizon for future exploration. The Chilpis have a huge potential for uranium and rare metal and rare earth mineralisation, which has been established by recent findings of carbonatite veins along NW-SE and NNE-SSW fracture/shear zones, analyzing significant uranium and HREE, especially yttrium, in Pipradar-Chinda sector.

Recent exploration for RMRE in parts of Central India has resulted in establishing substantial reserves of columbite-tantalite and beryl around Bodenar and Metapal in Bastar district, Chhattisgarh and pegmatite belt in Pandikimal-J angapara areas in J harsuguwa district, Odisha. As a part of rare earth recovery, the inland riverine placers of S iri river, J ashpur district, Chhattisgarh are being explored where substantial reserve of xenotime is expected. Recent surveys in the eastern extensions of CGGC, near Kuberpur, Surajpur district, Chhattisgarh, have brought out extensive occurrences of zoned pegmatites with a very high potential for Nb-Ta, with tapiolite mineralisation. The environs of CGGC thus have large Rare Metal potential, which can be proved by detailed exploration in future.

Data analysis of the airborne gamma-ray spectrometry combined with high sensitivity caesium vapour magnetometric and TDEM data generated all along the margins of Chhattisgarh and Singora Basins, will hopefully delineate newer area for detailed exploration in the years to come. Satpura Gondwana Basin has all the potential for hosting sandstone type uranium mineralisation in similar lines with Karoo Basin of South Africa. A new approach in the form of detailed sedimentological studies to identify palaeo channels and isolated sandbars, has been initiated and will hopefully pay rich dividends in the near future. AMD, Central Region is also exploring the possibilities of locating IOB type uranium mineralisation in the environs of Kotri-Dongargarh Rift.

I am very much optimistic for the future contribution by Central Region and hope to see good workable uranium deposits in the years to come.
Atomic Minerals Directorate for Exploration and Research (AMD) is one of the earliest units in Department of Atomic Energy. It’s main role is in the “Front End of Nuclear Fuel Cycle” i.e. to explore for atomic minerals, especially uranium, beach sand minerals and minerals containing Rare Earths and Rare Metals, including columbite and tantalite. It also contributes in middle and back end of nuclear fuel cycle. Therefore, AMD plays an important role in selection of sites for Nuclear Power Plants, Heavy Water Projects and other DAE projects of paramount importance, by conducting geotechnical investigations.

**Geotechnical Investigations:** Initially, a Special Investigation Cell was in operation in AMD to assist DAE in site selection of Nuclear Power Plants (NPP) in India. In late eighties, Geotechnical Investigations Group was established at Headquarters, in association with Nuclear Power Corporation of India Limited (NPCIL). The group, basically evaluated regional seismotectonic activities in 300 km radius around any proposed NPP site by consulting instrumentally recorded and historically reported seismic events and lineaments, fractures, faults in consultation with seismic groups of NPCIL and BARC. Critical field investigations have been carried out for Rawatbhata, Narora, Madras, Kaiga, Kudankulam, Kovada-Kotcherla, Ujani, Kakrapara and Jaitapur sites to generate Design Basis Earthquake Reports (DBE) as per Atomic Energy Regulatory Board (AERB) guidelines. The Geotechnical Investigations Group of AMD also attended foundation mapping for Kaiga 1 and 2 (PHWR 220 MWe each) and Tarapur 3 and 4 (BWR, 540 MWe each). Suggestions were made to apply civil engineering treatments to make foundation suitable to support reactor buildings. In addition to this, the Moradabad fault and offshore faults were evaluated by using seismic survey data (both on and off shore) of ONGC. These data have been utilised for revised DBE reports for Narora and Kalpakkam expansions. In recognition of considerable contributions in geotechnical investigations, AMD was made Member in the National Committee formed to revise Seismic Zoning Map of India by Bureau of Indian Standards (BIS). AMD contributes immensely towards the study of geotechnical aspects of NPP site selections of NPCIL and other DAE projects. This group has grown into a real knowledge bank for the geotechnical requirement of DAE.

**Mathematical Modelling:** I was also involved in the mathematical modelling aspects of AMD. The availability of ground geophysical and airborne / heliborne radiometric, magnetic and electromagnetic data coupled with surface and subsurface data on lithology and uranium mineralisation for Rohil in North Delhi Fold Belt, Rajasthan prompted to take up mathematical modelling for the area. In Rohil area, the mathematical modelling helped us to establish relationship between sub-surface uranium mineralisation and geophysical properties especially magnetic and resistivity. This concept is being utilised in various geological basins of India where such data is available.

As a part of above activities, I am confident that AMD has developed domain knowledge and would contribute the best for the overall development of DAE.
Rare Metal and Rare Earth (RMRE) Elements have been known to occur as early as two centuries ago, but the human friendly applications of these came to light only in 20th century, particularly in the hi-tech arena, after development of technology for their processing, extraction and purification from their source rocks. Thus, reaping the benefits of their unique properties, immense advances in science and modern technology, especially in the fields of space, nuclear energy, electronics, computers, telecommunications, information technology, superconducting materials, permanent magnets, hydrogen storage, rechargeable batteries, super alloy steels, etc., were accomplished in demand of RMRE elements bringing them to light in global metal market. The colossal damage caused by developmental activities worldwide attracted environmentalists to address the crisis of the century. The double edged pressures arising out of increasing demand for energy and concern about climate change stimulated research into new sources of energy and novel ways to store, transmit, transform and conserve it. This paved way for application of these elements in scientific advancements in energy-related technologies and other fields, besides enhancement in quality of human life.

RMREs, being large-ion lithophile elements, are incompatible in the structure of upper mantle minerals, thereby leading to fractionation into the earth’s crust. Inadvertently, RMRE are mainly concentrated in pegmatite, granite, peralkaline and peraluminous volcanics and alkaline-ultramafic and carbonatite complexes. Granite related RMRE deposits are associated with alkaline and A-type granite. In Indian context, granite pegmatites are important source of Li, Be, Cs, Nb, Ta, Sn, Y and REE. In world scenario, ultramafic alkaline and carbonatite complexes are the major resources of Nb and also REEs. Alkaline magma, a rare occurrence, is unusually enriched in elements such as Zr, Nb, Sr, Ba, Li and REE on account of their co-ordination requirements in forming minerals of their own. Syenite, ion-adsorption clays, iron oxide breccia, residual latite, nepheline syenite, phosphorite, hydrothermal iron deposit, brine, inland and beach placers and sea floor mud from Pacific Ocean are the major resources of REEs. In global context, China accounts for >90% of the world REE production and is the chief exporter of rare earths, monopolising this extremely important strategic resource, followed by USA, India, Sweden, Brazil, Canada, Australia and Malaysia are the other REE producing countries.

In India, the pegmatite belts of Bihar, Rajasthan, Andhra Pradesh, Karnataka, Madhya Pradesh and Chhattisgarh are known for their rare metal potential. Lepidolite, ambilgonite, spodumene (Li); beryl (Be); columbite-tantalite, pyrochlore-microlite, ixiolite (Nb-Ta); monazite and xenotime (Y, REE), are the main RM and REE minerals in the pegmatite and carbonatite complexes of India. Recent work has established that the carbonatite complexes of Sung Valley (Meghalaya), Samchampi (Assam); Suvattur-Pakkanadu-Mulakkad-Hogenakal (Tamilnadu); Ambadongar, Panwad - Kanwant (Gujarat); Newania (Rajasthan) and alkaline complexes such as Siwana Ring Complex, Rajasthan and Rasimalai, Tamil Nadu contain appreciable quantities of RM and RE minerals. A-type within plate granite of Kanigiri in Prakasam district, Andhra Pradesh, Idar granite of Umedpur, Gujarat also contain appreciable concentration of rare metals (Nb, Ta, Y). The vast East and West coasts of India, endowed with heavy mineral deposits of beach sands, teri sediments and inland riverine placers developed along the downstream of two mica granites containing xenotime and monazite in Chhattisgarh and Jharkhand are the major resources of Rare Earths in the country. Presently, AMD is recovering Rare Metal bearing minerals such as columbite-tantalite, beryl and spodumene from pegmatites of Jharsuguda district, Odisha; Bastar district, Chhattisgarh and Mandya district, Karnataka. Xenotime bearing polyminal concentrate is being recovered from inland riverine placers along Siri river and its tributaries, J ashpur district, Chhattisgarh.

AMD’s stock position for RMRE is very comfortable and I am sure that we would be providing this nuclear raw material to DAE as per their requirement in future.
The 69th Independence Day was celebrated with great fervour in AMD Headquarters, Regional Centres and in the field camps. Glimpses of the celebrations are presented below:

**Headquarters**

On the 69th Independence day, Shri P.S. Parihar, Director, hoisted the National Flag and received the guard-of-honour, in AMD, Hyderabad. In his address, he briefed about the activities and achievements of AMD during the last year. He also emphasised that discipline in all spheres of life is important. This was followed by a colourful cultural programme organised by AMD Recreation Club, Hyderabad.

**Regional Headquarters**

Southern Region, Bengaluru

Western Region, Jaipur

Central Region, Nagpur

Northeastern Region, Shillong

Koppunuru Prospect (South Central Region)

Eastern Region, Jamshedpur

**Research Study on Mineral Mapping of Indian Coasts**

A research study on mineral mapping of Indian coasts was initiated by National Centre for Sustainable Coastal Management (NCSCM). The review committee of this project under the Chairmanship of Shri P.S. Parihar, Director, AMD held several review meetings and mapped the mineral potential of the coastal areas. The executive summary of the research study was released by Shri P.S. Parihar on 29th December, 2015 in the presence of Scientists of NCSCM and their consortium partners including AMD.
**First Prize:** HDCD-400 (4) deployed in Southern Cuddapah Basin Investigations, Southern Region. **Shri A. Nagaraju**, Incharge and the crew members achieved a progress of 4,259.85m (Target 3,000m). Congratulations.

**Second Prize:** HDCD-400 (3) deployed in North Delhi Fold Belt Investigations, Northern Region. **Shri O.P. Sharma**, Incharge and the crew members achieved a progress of 3,948.05m (Target 3,600m). Congratulations.

**Third Prize:** RD-30(7) deployed in Dongargarh-Kotri Investigations, Central Region. **Shri Prabir Kumar Das**, Incharge and the crew members achieved a progress of 2,341.65m (Target 1,500m). Congratulations.

**Medal Distribution Ceremony in Region**

Medal distribution ceremony to award the winning officers and staff of best performing drilling unit RD-30(8) for 2012-13 was organised at Camp VP South, Guntur district, Andhra Pradesh on 17th March, 2015. **Shri P.S. Parihar**, Director, AMD distributed the medals to the staff. **Shri L.K. Nanda**, Additional Director, **Shri M.B. Verma**, Regional Director and **Shri A.B. Anand**, Head, Drilling Group graced the occasion.
The employees in AMD Headquarters and Regional Centres actively participated in the “Swachh Bharat Abhiyan” on various occasions during the year. Cleaning activities were carried out in office and residential complexes. Glimpses of the activities are given below.

As a part of the “Swachh Bharat Abhiyan”, officers and staff of Eastern Region, took up cleaning activities in Seemavati area, close to the office premises, Jamshedpur on 2nd October, 2015.

Vigilance Awareness Week-2015 was observed during 26-31 October, 2015. A pledge was taken by all the employees of AMD Headquarters, Regional Offices and Field Units on 27th October, 2015. An elocution competition for the employees of the Headquarters was conducted on 29th October, 2015. A talk on “Preventive Vigilance as a tool of Good Governance” was delivered by Shri S. Govardhan Rao, Vigilance Officer, AMD on 30th October, 2015. The winners of various competitions were awarded prizes by Shri P.S. Parihar, Director, AMD.

Celebrating the spirit of ‘Diamond Jubilee Year’, the tableau of the Department of Atomic Energy in the 66th Republic Day Parade 2015 at Rajpath, New Delhi, portrayed the expertise of the department in harnessing the tremendous potential of the atom for the benefit of the society. A white dove atop an atomic orbital symbolised the conviction of the nation in spreading the message ‘Atoms for Peace’.

The Prime Minister of India launched the “Beti Bachao Beti Padhao” (BBBP) initiative on 22nd January, 2015 at Panipat, Haryana with a clarion call to all of us to value the girl child.
Dr. (Ms.) Asoori Latha, Scientific Officer-F, MPG Group, Hyderabad has been conferred with “Dr. G. R. Udas - Dr. K.K Dwivedy Medal - 2014” instituted by the Indian Society of Applied Geochemists (ISAG) at a ceremony held during 26-27 March, 2015 at Annamalai University, Tamil Nadu in the Annual General Body Meeting (AGM) of the Society. The award was conferred for significant contributions in the field of geochemistry for the last 10 years.

Dr. Yamuna Singh, Head, MPG Group has been conferred with “Prof. S.M. Ramananda Setty Award-2011” instituted by the Mineralogical Society of India (MSI), Mysore, for the best paper titled “X-ray crystallography of uraninites from Proterozoic sedimentary basins of Peninsular India: Implications for uranium ore genesis”, authored by Yamuna Singh, R. Viswanathan, P.S. Parihar and P.B. Maithani. The award was presented in the AGM of the Society, held at University of Mysore on 31st March, 2015.

Dr. A.K. Chaturvedi, Additional Director (R&D), has been honoured with “N.N. Chatterjee Award-2015” by Geological Society of India in recognition of valuable contributions in the field of energy resources of India. The Award was presented to him on the occasion of the AGM of the Society conducted at Leh, Jammu and Kashmir on 8th September, 2015.

Shri J. Sridhar, Senior Technician-H, PMSG, Hyderabad received the Second Prize for “Best slogan in English” competition held as a part of 32nd DAE Safety and Occupational Health Professionals Meet at RRCAT, Indore during 5-7 October, 2015. The slogan was “Technology Enhances Productivity - Safety Enhances Longevity”.

DAE Group Achievement Award - 2014 has been conferred on Dr. A.K. Rai, Outstanding Scientist and Additional Director and the members of the Instrumentation Group, Hyderabad namely Smt. A. Meenakshi Sundari, Shri K. Varaprasada Rao, Shri Vishal Gupta, and Smt. K. Sandhya Mohanan, in recognition of their outstanding contribution in the group activity titled “Design, Development, Fabrication and Deployment of Borehole Trajectory Logging System”. Dr. A.K. Rai, Team Leader, received the award from Dr. B. Bhattacharjee, Former Director, BARC on 29th October, 2015 on the occasion of Founder’s Day celebration of BARC, Mumbai.

Shri M. Nageswara Rao, Pay and Accounts Officer has been conferred with the DAE “Meritorious Service Award (MSA) - 2014” for his outstanding contribution in implementation of full-fledged electronic delivery of payment services through Government e-payment Gateway (GePG). The Award was presented to him by Dr. B. Bhattacharjee, former Director, BARC on 29th October, 2015 on the occasion of Founder’s Day Celebration of BARC, Mumbai.

The Indian Society of Applied Geochemists (ISAG) has conferred the following awards. i) “Life Time Achievement Award-2015” for significant contributions in the field of Mineral Exploration to Shri P.S. Parihar, Director, AMD; ii) “Smt. Manthripragada Sita Devi – Rama Rao Medal-2015” for significant contributions in the field of Analytical Chemistry for the last 10 years to Dr. P.K. Tarafdar, Scientific Officer-G, Chemistry Laboratory, Eastern Region, Jamshedpur and iii) “Dr. G. R. Udas - Dr.K.K. Dwivedy Medal-2015” for significant contributions in the field of geochemistry for the last 10 years to Dr. U.K. Pandey, Scientific Officer-F, MPG Group, Hyderabad. The awards were presented to them during the AGM of the Society on 22nd December, 2015 held at Jawaharlal Nehru University, New Delhi.

Dr. A.K. Rai, Additional Director, has been conferred with “Outstanding Service Award-2014, in the field of Nuclear Fuel Cycle Technologies including Radiation Safety and Environmental Protection” instituted by Indian Nuclear Society.
राजभाषा हिंदी समाचार

राजभाषा कार्यान्वयन की शुरुआत से वर्ष 2015 तक दर्ज द्विपदा और सुधारों का माना वर्ष सा हो। परंतु, मुख्यालय सहित सभी क्षेत्रीय कार्यालयों तथा संबंधित मील्ड हिंदी सत्रों में राजभाषा पदावंद मनाया गया। इस अवसर पर तीन व्यक्तियों द्वारा परिषद बनाई गई जिनमें अधिकारियां। कम्प्यूटर टिकट के बाद में भाषा को व्यावसायिक महत्व मिलने लगा। गैर-स्थानीय क्षेत्रों में पूरी तरह से वित्तीय प्राप्ति बनाई गई जिनमें अंतरराष्ट्रीय परिषद के अधिकारियों।

मुख्यालय, हैदराबाद

विशेष हिंदी विशेष अधिकारियों का आयोजन - इस अवसर पर दो अन्य स्थानीय कार्यालयों में किया गया। 10 दिसंबर, 2015 को मुख्यालय के स्थानीय अधिकारियों के लिए विशेष कार्यालय का आयोजन किया गया। जिसमें भेद सदस्य की राजभाषा नीति और राजस्थान राजभाषा संस्थान के संबंध में कार्यान्वयन संबंधी दावों के आवश्यकता पर चर्चा की गई। तीनों कार्यालयों में कुल 62 अधिकारियों वहाँ भाषा लिखा। बंगाली पर हिंदी टिकट का आयोजन किया गया। कुल 11 प्रशासनिक कम्प्यूटर इससे लाभान्वित हुए।

भाषा प्रसिद्धि - समूह घ देस में समूह घ में परिवर्तित करने वाले कम्प्यूटरों के विशेष ध्वनि प्रदेश प्रशिक्षण कार्यालय का आयोजन पत्र परिषद में हिंदी विशेष योजना कार्यालय, हैदराबाद के सहयोग से किया गया जिससे कुल 12 कर्मचारियों को प्रशिक्षण दिया गया। सभी 12 कर्मचारियों ने नकाश पुस्तकार और वेतनवृद्धि प्राप्त की।

हिंदी सेवी समान पुस्तकार – हिंदी के प्रचार प्रसार में दो दशकों से व्यक्ति समाज को प्रस्तुति को प्रदान वहेते से है। हिंदी, मुख्यालय के दो। एस। एन। भूमिका, वैज्ञानिक अधिकारी-जी, वो वर्ष 2013-14 का हिंदी सेवी समान पुस्तकार स्वरूप मेडेल और प्रशिक्षण पर पजाकी के राजभाषा संस्थान के उपद्रवण समाहारों में विशेष अधिकार के कारणों से दिया गया।

शेष पत्र पर हिंदी में अनुभव-वार जानकारी – योजना के अनुसार तत्काल अनुभाग भारी बारे में संचाित जानकारी हिंदी में पुस्तकार करते हैं। उपरोक्त प्रस्तुति के लिए हिंदी के समुच्चय अनुभाग का विस्तार हिंदी पत्रिका का आयोजन किया जाता है। वर्ष 2014-15 के लिए तकनीकी वर्ष में इस्तेमाल के ध्वनि में प्रस्तुति प्रसंगात्मक एचपी तथा गरीब-तकनीकी वर्ष में समीपी प्रकाशन का एक पर्याप्त खिंचव क्रय इकाई (MMG/AMPUI) अनुभागों का यह पुस्तकार अनुभव प्रस्तुति के लिए दिया गया।

हिंदी पक्षवाद - मुख्यालय: सितंबर मह 14 में 14 से 24 तारीख के बीच 11 विभिन्न हिंदी प्रतियोगिताओं का आयोजन हुआ जिसमें 251 प्रतिभागियों ने भाग लिया, 164 विजेताओं का विशेष रूप से आयोजित समारोह में पुस्तकार दिया गया।
परमाणु खिनिज निदेशालय के 07 क्षेत्रीय कार्यालयों द्वारा हिंदी के प्रचार-प्रसार में हिंदी गतिविधियों का क्रमवारी शुरू हुई। प्रचार-प्रसार के लिए प्रदर्शित कार्यालयों में परमाणु खिनिज कार्यालयों व राजविधि सभाओं के अन्तर्गत संगठित कि कार्यरतों ने मनाए। प्रवासी क्षेत्रीय कार्यालयों अंतर्गत भी जारी गई।

पुर्वी क्षेत्र, मुंबई- पश्चिम हिंदी दिवस के बाद दैनिक नाटिका में परमाणु खिनिज कार्यालय के अंतर्गत पूर्वाञ्चल के उद्भव क्षेत्र के द्वारा रखी गई।

पश्चिमी क्षेत्र, नागपुर- पश्चिम हिंदी दिवस पर इस क्षेत्र के संगठित कार्यालयों में हिंदी सभाओं का आयोजन किया गया।

मध्यपश्चिमी क्षेत्र, बंगलुरु- बंगलुरु के राजभाषा कार्यालय के अंतर्गत पूर्वाञ्चल के उद्भव क्षेत्र के द्वारा हिंदी दिवस का आयोजन किया गया।

दक्षिण भारत- तेलंगाना तथा कर्नाटक के राजभाषा कार्यालय के अंतर्गत दक्षिण-पश्चिम तथा दक्षिण-पूर्व क्षेत्रों के निर्मित कार्यालयों में हिंदी सभाओं का आयोजन किया गया।

क्षेत्रीय कार्यालय-बीएसईओआई (लखीसराय-लालौलपुर) - पुरातन बालू एवं अस्तित्वीय अवसरों पर राजभाषा गतिविधियों का सालाहु रूप से जारी रखने के लिए आयोजित किया गया।

हिंदी वैज्ञानिक संगठन- परमाणु खिनिज अवसरवर्ती अवसरों पर राजभाषा गतिविधियों का सालाहु रूप से जारी रखने के लिए आयोजित किया गया।
A picnic was organised by the AMD Headquarters Recreation Club for the staff and officers of Headquarters and their families in and around Warangal on 24th January, 2015.

The Megha Recreation Club, Northeastern Region, Shillong organised a picnic on 7th February, 2015 for officers and staff of the Region and their families to Dimpasaw village.

The Recreation Club of Eastern Region organised a picnic for the officers and staff of the Region and their families at a picturesque site near Galudih barrage on the banks of River Subarnarekha on 4th January, 2015.
Anuvigyan week was celebrated with much enthusiasm during 23-27 February, 2015 in Headquarters, Regional Centres, Sectional Headquarters and field camps, commemorating the legacy of Sir C.V.Raman and also as part of the Golden J ubilee Celebrations of Department of Atomic Energy. Glimpses of the events are given below. All the programmes attracted wide coverage by print and electronic media.

**Headquarters, Hyderabad:** A programme was conducted on 24th February, 2015 for the students and faculty members of Kendriya Vidyalaya-I & II, Uppal, Hyderabad. It consisted of a lecture on "Nuclear Energy - A clean energy for Human Development", exhibition and elocution competition. A portrait of Dr.H.J.Bhabha was presented to the school on the occasion.

A programme was conducted on 26th February, 2015 for the students and faculty members of BITS-Pilani, Hyderabad Campus, Hyderabad. The programme consisted of a lecture on "Energy Options-Role of Nuclear Power", exhibition and elocution competition.

An invited lecture titled “The New Cosmos” by Shri B.G.Sidharth, Director, BM Birla Science Center, Hyderabad was arranged on 27th February, 2015 in AMD Complex, Hyderabad.

**Northern Region, New Delhi:** A programme was conducted at AMD Office Complex during 23-27 February, 2015. The programme consisted of lectures on “Atom in Service of Mankind”, “History of Science”, “Nuclear Fuel Cycle” and “Radiation and detection techniques”, science quiz, poster making competition on the topic “Various Sources of Energy” and exhibition. Students of Central School, R.K.Puram Sector-IV, New Delhi participated in the programme.

A programme comprising an exhibition and lectures on “Parmanu se Khanij” and “Peaceful Uses of Atomic Energy in the Development of the Country” was conducted at Camp: Tibba Basai, J hunjhunu district, Rajasthan during 26-27 February, 2015.

**Southern Region, Bengaluru:** A programme consisting of an exhibition and a lecture on “Peaceful uses of atomic energy” was conducted at Government Composite Pre University College, Srirangapatna, Mandya district, Karnataka, during 13-14 February, 2015.

An exhibition highlighting the activities of DAE and AMD, science quiz and lectures were organised at Islamiah College, Vaniyambadi, Vellore district, Tamil Nadu during 23-24 February, 2015.

An exhibition was conducted at Narayana e-Techno English Medium School & J unior college, Pulivendula, Kadapa district, Andhra Pradesh on 19th February, 2015 for IX and X standard students representing seventeen schools in and around Pulivendula. Around 800 people including students, teachers, villagers and local councillors attended the programmes.

**Eastern Region, Jamshedpur:** As part of celebrations, exhibitions were conducted at B.S.M. Degree College, Karandih, East Singhbhum district, J harkhand on 24th February, 2015; B.A. College of Engineering and Technology, Ghutia, East Singhbhum district, J harkhand on 25th February; Rachhapa village panchayat, Saraikela district, J harkhand on 26th February and Kitadhi Panchayat, East Singhbhum district, J harkhand on 28th February, 2015. The programmes also included lectures on “Atomic Energy for the Progress of the Country”, “Peaceful Uses of Atomic Energy”, “Misconceptions related to Nuclear Energy” and exhibitions. Representatives of various sections of the society attended the programmes.

**Northeastern Region, Shillong:** Programmes were conducted at Jingati High School, Nongjri, West Khasi Hills district, Meghalaya and Nalikata Higher Secondary School, Gomaghat, South West Khasi Hills district, Meghalaya and Government Higher

Western Region, Jaipur: Programmes were conducted at Agrawal Government Senior Secondary School, Guhala; Camp: Hurra Ki Dhani and Camp: Khandela, Sikar district, Rajasthan during 23-28 February, 2015. The programmes comprised lectures and exhibitions. Members from various sections of the society including students, faculty and local representatives attended the programmes. An exhibition, a lecture on “The Activities of AMD and DAE”, essay and quiz competitions were conducted at Government Higher Secondary School, Siwana, Barmer district, Rajasthan on 26th February, 2015. A programme consisting of an exhibition, a lecture on “Energy Scenario and Atomic Energy”, essay and quiz competitions was conducted at Jawahar Navodaya Vidyalaya, Sardarshahar, Churu district, Rajasthan on 27th February, 2015. A programme consisting of an exhibition, a lecture on “Nuclear Energy and AMD activities”, essay and quiz competitions was conducted at Shri Kawant English High School at Ambadongar, Chhota Udepur district, Gujarat on 28th February, 2015.

Central Region, Nagpur: Programmes were conducted at K.J. Public School, Saoner, Bhandara district, Maharashtra on 20th February, 2015; Lokmanya Tilak Science College, Wani, Yavatmal district, Maharashtra on 21st February, 2015; Loyola Higher Secondary School, Kunkuri, Jashpur district, Chhattisgarh on 21st February, 2015; Eklavya Degree College, Lohara, Kawardha district, Chhattisgarh on 23rd February, 2015; P.S. J Junior College, Pandikimal, Jharsuguda district, Odisha on 23rd February, 2015; Government Multipurpose Higher Secondary School, Bodenar, Jagdalpur district, Chhattisgarh on 25th February, 2015; N.P.J. Degree College, Dalil Rajhara, Rajandongaon district, Chhattisgarh on 26th February, 2015 and Adim Jati Kanya Uchchatar Madhyamik Vidyalaya, Pratappur, Surajpur district, Chhattisgarh on 27th February, 2015. The programmes consisted of lectures highlighting the importance of Atomic Energy in the growth of our country and exhibitions on peaceful uses of atomic energy. In the Headquarters, a science exhibition was organised on 27th February, 2015.

South Central Region, Hyderabad: Programmes were conducted at Sir C.V. Raman Institute of Technology and Sciences, Tadipatri, Anantapur district, Andhra Pradesh during 24-25 February, 2015 and at Camp: VP South, Guntur district, Andhra Pradesh during 26-27 February, 2015. The programmes comprised exhibitions, lectures, essay writing and elocution competitions.

BSOI, Thiruvananthapuram: Programmes were conducted at the Sectional Office, Thiruvananthapuram on 23rd February, 2015 and Camp: Karunagappalli, Kollam district, Kerala on 24th February, 2015. The programmes comprised exhibitions and video-shows about the overall activities of AMD. A Seminar focusing on the theme of ‘Nuclear Energy - Atomic Minerals Exploration’ and an exhibition were also organised at Amrita Vishwa Vidyapeetham (Amrita University), Amritapuri, Kollam district, Kerala during 26-27, February, 2015.

BSOI, Visakhapatnam: A programme was conducted at Dr. B.R. Ambedkar University, Etcherla, Srikakulam district, Andhra Pradesh during 26-27 February, 2015. The programme included elocution competitions for three age groups, a lecture on “Nuclear Power - Sustainable Source for Development” and an exhibition about the activities of DAE and AMD.
An awareness programme was conducted at AMD, Hyderabad on 29th January, 2015 for the students and faculty members of Maharshi Veda Vigyan Mahavidyalaya and Junior College for Girls, Begumpet, Hyderabad. The programme consisted of lectures on "Nuclear Power in the country's development", "Rare Metals and Rare Minerals" and "Rare Earth Elements-Extraction and Analysis" and visits to various laboratories of AMD, Hyderabad.

An awareness programme was conducted on 30th September, 2015 at St. Theresa's Girls High School, Hyderabad. The programme consisted of a lecture on "Indian Atomic Energy Programme", exhibition and elocution competition. Nearly 2000 students participated in the programme.

A programme was conducted on 8th October, 2015 at Vivek Vardhini College, Hyderabad. The programme consisted of a lecture on "Nuclear Power and Exploration for Atomic Minerals", exhibition and elocution competition. Shri L.K.Nanda, Additional Director inaugurated the programme and interacted with the students and teachers.

An awareness programme was conducted on 13th October, 2015 at Sangha Mitra School, Hyderabad. The programme consisted of a lecture on "Relevance of Nuclear Energy in India", exhibition and elocution competition. Nearly 1800 students and teachers attended the programme.

A programme was conducted on 4th November, 2015 at Bhavan's Sri Ramakrishna Vidyalaya, Secunderabad. Shri L.K. Nanda Additional Director, inaugurated the programme and delivered a lecture on "Nuclear Power and Exploration for Atomic Minerals". The programme also consisted of an exhibition and elocution competition. Nearly 2000 people comprising students and teachers attended the programme.

Northern Region, New Delhi:
 AMD, Northern Region participated in the 35th International Trade Fair held at Pragati Maidan, New Delhi during 14-27, January, 2015. Exhibits portraying exploration for Atomic Minerals were displayed as part of the DAE pavilion.

Southern Region, Bengaluru:
 A public awareness programme was conducted during 7-8 January, 2015 at Vivekananda College of Arts, Science and Commerce, Puttur, Dakshin Kannada district, Karnataka. The programme consisted of a lecture on "Nuclear energy and its peaceful purpose and Exploration for atomic minerals", an exhibition and science quiz programmes.

A 'Jan Chetna' programme was conducted on 10th February, 2015 at Swargrani School and PU College, Bengaluru. The programme consisted of a lecture on "Peaceful uses of Atomic Energy" and exhibition.
* An awareness programme was conducted during 10-11 July, 2015 at Kendriya Vidyalaya-1, Tirupati on the occasion of the Golden Jubilee celebration function of the school. Dr. C.B.S. Venkataramana, former Additional Secretary, DAE inaugurated the programme which consisted of lectures and exhibition.

**Eastern Region, Jamshedpur:**
* A programme was conducted on 30th September, 2015 at Rambha Industrial Training Centre, Ghaghidih, Jamshedpur. The programme consisted of lectures on “Peaceful uses of Atomic Energy in the Development of the Country” and ‘Atom for Peace’ for the students and faculty members along with an exhibition.

* AMD participated in the 20th Sunderban Krishi Mela and Lok Sanskriti Utsav, organised by Kultali Milan Tirtha Society during 20-29 December, 2015 at Kultali, South 24-Paraganas district, West Bengal. Around 1000 people comprising students, teachers and villagers visited the stalls every day.

**Northeastern Region, Shillong:**
* A lecture on ‘Uranium Exploration in Meghalaya-Present Status and Challenges’ was delivered at Don Bosco University, Guwahati on 27th February, 2015 as part of the National Conference organised by Don Bosco University, Guwahati on “New approaches of basic science towards the development of engineering and technology-2015”.

**Western Region, Jaipur:**
* Post-graduate students of Subodh (PG) College along with faculty members visited the laboratories of Western Region on 5th November, 2015. A lecture on “Nuclear Energy and Radiation” was delivered on the occasion.

* A programme was conducted during 19-21 November, 2015 at Manipal University, Jaipur. The programme consisted of a lecture on “Peaceful uses of atomic energy” and an exhibition.

**Central Region, Nagpur:**
* Central Region participated in “Science Expo-2015” held at Raman Science Center, Nagpur during 7-11 January, 2015. More than sixty thousand students visited AMD gallery during the five days of the exhibition.

* An exhibition depicting activities of AMD and uranium exploration in Central India was organised at Hari Singh Gour University, Sagar during 5-6 August, 2015. A lecture on “Uranium potential of Central India” was delivered at the seminar entitled ‘Geo potential of Central India’. More than 500 students and faculty members visited AMD pavilion.

* Faculty members of different colleges of Nagpur University, located in Nagpur visited Central Region on 11th March and 14th October, 2015. The programmes consisted of lectures on “Nuclear Energy- Clean Energy” and visit to all the laboratories of Central Region.

**South Central Region, Hyderabad:**
* A programme was conducted at Newton’s Institute of Engineering, Macherla, Guntur district, Andhra Pradesh during 17-18 March, 2015 on the occasion of its National Level Student Technical, Cultural and Sports Meet - 2015. An exhibition displaying the activities of AMD was also organised.

* A programme was conducted on 15th September, 2015 at Shri Shirdi Sai Institute of Science and Engineering, Anantapur, Andhra Pradesh. The programme consisted of lectures on “Energy budget of India vis-a-vis Nuclear Energy” and “Atomic Minerals Potential of Andhra Pradesh & Telangana” and an exhibition. More than 550 students and faculty members participated in the programme.
* An awareness programme was conducted at Government Junior College, Narpala, Anantapur district, Andhra Pradesh on 23rd September, 2015. On this occasion a lecture on “AMD and role of Nuclear Energy for the society”, an exhibition, elocution and quiz competitions were conducted. Nearly 100 students and faculty participated in the programme.

* A programme was conducted at Newton Institute of Engineering, Macherla, Guntur district, Andhra Pradesh on 23rd September, 2015. The programme comprised an exhibition, lecture on “Uranium Exploration Activities in Andhra Pradesh” and elocution competition. About 250 students and faculty members participated in the programme.

* A programme was conducted at Camp V.P. South, Guntur District, Andhra Pradesh on 23rd September, 2015 in which students of Government Higher Secondary School, Hill Colony and Andhra Pradesh Tribal Welfare Residential School, Nagarjuna Sagar participated.

All the programmes were well received by the public and print media.

**भारतीय विज्ञान कांग्रेस - 2015 INDIAN SCIENCE CONGRESS - 2015**

AMD participated in the DAE pavilion at the “Pride of India” exhibition as a part of 102nd Indian National Science Congress held at Kalina Campus, Mumbai University, Mumbai, during 3-7 January, 2015. Several dignitaries including Shri Sekhar Basu, Chairman, AEC and Secretary, DAE and Dr. R. Chidambaram, former Chairman, AEC and Secretary, DAE visited the AMD stalls.

**एन ए बी एल के अनुसार रसायनिक प्रयोगशाला का उन्नयन**

Upgradation of Chemistry Laboratory as per NABL

Shri P.S. Parihar, Director, AMD inaugurated the Solution Chemistry laboratories of Hyderabad on 26th October, 2015 which were upgraded and modernised as per NABL standards. He also inaugurated the newly acquired “High Resolution Continuum Source Flame Atomic Absorption Spectrometer (HR-CS-AAS)”. Senior officers of the Headquarters graced the occasion.

The HR-CS-AAS facilitates one light source (Xenon Arc Lamp) for all atomic lines from 185-900 nm. It comprises a high resolution echelle spectrometer and Charge Coupled Device array chip for detection. The instrument does not require hollow cathode lamps. It is a sequential multi elemental technique with simultaneous background and interference correction. Most of the transitional elements are determined at ppm level.
A national symposium on “Current trends in Geochemistry, Exploration and Environment” was jointly organised by AMD and Indian Society of Applied Geochemists (ISAG) during 15-16 October, 2015 at AMD Complex, Hyderabad. A total of 72 papers on various themes of geochemistry, exploration and environment were presented in the symposium.

A workshop on “Rare Earth and Rare Metal resources from carbonatites, alkali-granites and pegmatites of India: Theory and Practice” was organised jointly by AMD and Geological Society of India at AMD, Southern Region, Bengaluru during 14-20 December, 2015. The workshop consisted of 17 lectures and field visits to Marlagalla, Karnataka and alkaline complexes of Tamil Nadu. Nineteen participants from various institutions attended the workshop.

A National Seminar cum Workshop on “Modern Methods of Chemical Analysis (MMCA-2015)” was organised jointly by CSIR-NML and AMD at National Metallurgical Laboratory (NML), Jamshedpur during December 01-03, 2015. Over 150 delegates from different national laboratories, research and academic institutes and universities participated in the seminar and 30 research papers were presented.

Eleventh School of Analytical Chemistry (SAC-11) Workshop was jointly organised by Board of Research in Nuclear Sciences (BRNS) and Association of Environmental Analytical Chemistry of India (AEACI) at Chemistry Laboratory, Southern Region, Bengaluru during 30th November to 7th December, 2015.

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Pratitiyuktiyan DEPUTATIONS

* Dr. A.V. Jeyagopal, Deputy Regional Director, Northeastern Region, Shillong and Shri A. Panneerselvam, the then Deputy Regional Director, South Central Region, Hyderabad participated in the International Convention, Trade Show and Investors Exchange Mining Investment Show of the Prospectors and Developers Association of Canada (PDAC-2015) held at Toronto, Canada during 1-4 March, 2014.

* Shri V.V. Hanuman, Scientific Officer-C, Hyderabad attended the training on “High resolution continuum source AAS” held at Jena, Germany during 18-22 May, 2015.

* Shri S. Nayak, Scientific Officer-G, Nagpur, Dr. Chanchal Sarbajna, Scientific Officer-G, Bengaluru and Dr. Arpan Mishra Scientific Officer-E, Jaiipur visited M/s Thermo Fisher Scientific (ECUBLENS), SARL, Switzerland for pre-dispatch inspection and training on fully automated sequential Wavelength Dispersive X-ray Fluorescence Spectrometer (WDXRFs), during 6-24 July, 2015.

* Dr. U.K. Pandey, Scientific Officer-F and Ms. K. Asha, Scientific Officer-E, Hyderabad attended the training on “Isotope Ratio Mass Spectrometer” held at United Kingdom during 24th August to 4th September, 2015.

* Shri A.K. Jain, Scientific Officer-F, Jaiipur attended the training meeting on “The uranium potential and exploration of Asia and Pacific” held at Manila, Philippines during 19-22 October, 2015.

* Shri P.S. Parihar, Director, AMD attended 52nd joint OECD/NEA-IAEA Uranium Group Meeting (UGM) held at IAEA, Vienna, Austria during 4-6 November, 2015.
Trainings on “Drilling Techniques and Safety Aspects” and “Safety and Health of Working Personnel” were conducted by Northern Region during 24-27 February and 4-5 November, 2015 at Camp: Tibba Basai, Jhunjhunu district, Rajasthan. A total of 54 Technicians and Work Assistants of Northern Region participated in the trainings.

Officers of Western Region were given training on “The functioning and operation of MEMS based borehole trajectory logging system” during 12-16 March, 2015, at Rohil, Sikar district, Rajasthan.

A programme for Technical Officers and Scientific Assistants of Drilling Group was conducted at Camp: M. C. Palle, Kadapa district, Andhra Pradesh during 24-27 March, 2015. Two Technical Officers and nine Scientific Assistants from different Regions participated in the programme.

A programme on “Geochemical Exploration Techniques for Uranium” was conducted during 18-23 May, 2015 for the officers of AMD and UCIL at Jamshedpur. Seventeen officers from AMD and three from UCIL attended the programme.

A programme on “Radioactive Geological Sample Handling & Preparation and Radiation Safety” for Technicians/Work Assistants was conducted at Bengaluru during 20-22 May, 2015. Twenty two Technicians/Work Assistants participated in the training programme.

Three training programmes on “Safety at Work Place” were conducted for the officers and staff of Western Region during 25-26 June, 29-30 September and 12-13 October, 2015 at Jaipur. Seventy seven personnel including Officers, Technicians and Work Assistants participated in the programmes. Use of Fire Extinguisher was demonstrated by security personnel.

A programme titled, “Refresher Course on Remote Sensing” was conducted at Headquarters, Hyderabad during 10-21 August, 2015. Nine Scientific Officers of various Regions attended the training programme.

A programme was conducted in “XRF Laboratory”, Hyderabad for six Technicians working in Regional Laboratories, during 17-21 August, 2015.

A training on “Interpretation of Heliborne and Ground Geophysical Survey Data” was organised by Exploration Geophysics Group at AMD, Headquarters, Hyderabad during 17-28 August, 2015. Six Scientific Officers of various Regions attended the training programme.

A programme on “Exposure to Petrology, XRF (WD & ED), XRD and Geochronology Laboratories”, was organised by Mineralogy, Petrology and Geochronology Group at AMD, Headquarters, Hyderabad during 24th August to 18th September, 2015. Seven Scientific Officers from different Regions attended the training programme.

A training programme on “Environmental Management” was conducted during 5-9 October, 2015 at Jaipur. Twenty five Scientific and Technical Officers from different Regions and Groups participated in the programme.

A training on ‘Autocad Map-15’ was conducted at Nagpur during 12-16 October, 2015. Twelve Scientific and Technical Officers from different Regions participated in the programme.

A programme titled, “Orientation Course for Newly joined Physicists” was conducted by Physics Group during 26th October to 6th November, 2015 at Hyderabad. Eleven newly recruited Scientific and Technical Officers attended the training programme.
Dr. A.K. Rai, Additional Director inaugurated the newly installed ICP-AES (Make: Jobin Yvon, France, Model: Ultima 2) in the Chemical Laboratory, Eastern Region, Jamshedpur on 4th January, 2015. Shri Pramod Kumar, Regional Director and other senior officers graced the occasion.

Dr. R.K. Sinha, the then Chairman, AEC and Secretary, DAE visited Central Region, Nagpur on 13th March, 2015. Shri A. Majumdar, the then Regional Director, Central Region described the activities being carried out in Central Region. He also visited different laboratories and interacted with senior scientists.

Officers of Northern Region, New Delhi participated in the International Yoga day conducted at Rajpath, New Delhi on 21st June, 2015.

The recreation club of Eastern Region organised a lecture on “Health Care Delivery in India” by renowned cardiologist Dr. Perwez Alam. A demonstration on “Basic Life Saving Techniques” was conducted by the Quick Response Team of Brahmananda Narayana Hridayalaya, Tamolia, Jamshedpur on 26th June, 2015.

A Yoga programme was organised by the recreation club of Camp VP South, Guntur district, Andhra Pradesh on 21st June, 2015 in which twenty two camp inmates participated.

Shri P.S. Parihar, Director, inaugurated the pre-fab accommodation units for staff and security room at Camp M.C. Palle, Kadapa district, Andhra Pradesh on 16th September, 2015. Dr. A.K. Rai, Additional Director and Dr. Syed Zakaulla, Regional Director, Southern Region graced the occasion.

A Vipassana Meditation awareness programme was conducted at Camp VP South, Guntur district, Andhra Pradesh on 24th September, 2015. The programme was guided by S/Shri V. Markandeyulu, Dr. J. Bhaskar and P.T. Reddy from Vipassana Centre, Hyderabad.

An old decommissioned drilling rig (DM-625) has been installed in the office premises of Northeastern Region, Shillong as an exhibit for the visitors.

A novel system of Organic Kitchen Waste Management has been initiated in the residential complex of Northeastern Region, Shillong. This method of waste management is known as Bokashi, a Japanese term meaning ‘fermented organic matter’. This method is safe, environmental friendly and convenient way to compost the biodegradable organic material. The initiative has been taken in association with Bethany Society, Shillong. Plastic bin is customized for draining-out the liquid from waste fermented by micro-organism powder. The liquid, collected in the plate under the bucket is utilised as a fertiliser by diluting with water in gardens. The incomplete compost in bucket is transferred to a pit and mixed with soil and kept covered, which can also be utilised as fertiliser.

International Women’s Day was celebrated in Headquarters, Hyderabad and Northern Region, New Delhi on 9th March, 2015. All the women officers and staff attended the celebrations with great spirit.
ACCLOPLISHMENTS

Shri Prakhar Kumar, Scientific Officer-G, Central Region has acquired Ph.D. degree (2015) from Jai Narain Vyas University, Jodhpur, Rajasthan for the thesis “A study on configuration, development and economic potential of Quaternary calcrete with special reference to atomic minerals around Jodhpur, Rajasthan”.

Shri M. Seetaramayya, Scientific Officer-G, ASRS Group, Hyderabad acquired Ph.D. degree (2015) from Osmania University, Hyderabad, Telangana for the thesis on “Study on data enhancement techniques for uranium exploration in air borne gamma-ray spectrometry with an emphasis on multichannel approach”.

MEDICAL CAMP

A medical camp was organised by the officers and staff of South Central Region in the tribal dominated village Brahmanandapuram Tanda, Guntur district, Andhra Pradesh on 3rd September, 2015. The medical camp was utilised by 106 locals of different ages.

A health camp was organised for the benefit of employees of Headquarters, Hyderabad on 26th November, 2015, in association with Krishna Institute of Medical Sciences (KIMS), Hyderabad. About 250 employees were benefitted by the health check ups.

SPORTS

As part of XXXI DAE sports and cultural meet-2015, selection trials for table tennis, carrom and bridge competitions were conducted by AMD Recreation Club, Hyderabad during 15-16 October, 2015 and 24-27 November, 2015. Players from Nuclear Fuel Complex, Hyderabad; Nuclear Power Corporation of India Limited, Kaiga; Atomic Minerals Directorate for Exploration and Research and other DAE organisations participated in the competitions.

TREKKING EXPEDITION

S/Shri S.I. Jabiulla, C.V.M. Rajaram, and K. Venugopala Raju from Headquarters, Hyderabad participated in the 26th Girisanchar – the Annual All India Trekking Expedition conducted by DAE Sports & Cultural Council during 5-11 January, 2015. The trekking was conducted in Bhor-Mahadev Wadi- Pali Khurd – Balvad – Kelad and Shivtharghal in Maharashtra.


A walking race was conducted in AMD, Headquarters, Hyderabad on the eve of Republic day, 2015.

The annual sports of Western Region, Jaiipur, organised by Recreation Club, was conducted on 16th July, 2015.
Mr. Shruthi Rajagopalan, daughter of Shri V. Rajagopalan, Incharge, Sirsailam Kumool Investigations, South Central Region, Hyderabad has achieved 1st rank and gold medal in Master of Technology (Robotics) from SRM University, Chennai.

Dr. G. Madhuri, daughter of Dr. G. Nagendra Babu, Incharge, Materials Management Group, Hyderabad has bagged 2nd prize in the “Young Scientists” category of the Indian Chest Society. Her paper entitled “Broncho-Pulmonary Infections” has won the best paper award of the national conference of the society held at Ajipur on 5th November, 2015. She also won a cash prize of Rs. 11,000.

Kum. Antara Gupta daughter of Shri Shekhar Gupta, Scientific Officer, Eastern Region, Jamshedpur, studying in class III in Atomic Energy Central School, Turamdih, has won Silver Medal for securing 2nd rank in Eastern Zone (International rank- 8) in the 5th International English Olympiad (IEO) and 7th rank in the national finals of Geography Olympiad in Sub-junior level for academic year 2014-15.

Kum. Nisha, daughter of Shri Madan Prasad Singh, Work Assistant

Master P. Bharat Sai son of Shri P. Nageswara Rao, Work Assistant

Kum. M. Nikitha, daughter of Shri M. Rajender, Technician

Master Rahul Das son of Shri Maheswar Das, Work Assistant

AMD wishes all the best in their careers. Congratulations.

NEW RECRUITMENTS

The kith and kin of the employees working in Headquarters, Hyderabad have excelled in their academic and sports pursuits during 2015.

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