

16th NCB International Seminar on Cement, Concrete and Building Materials

"Clean & Green is Sustainable"

03–06 December 2019

New Delhi, India

PROGRAMME

Venue:

Manekshaw Centre, New Delhi, India



Organised by

National Council for Cement and Building Materials

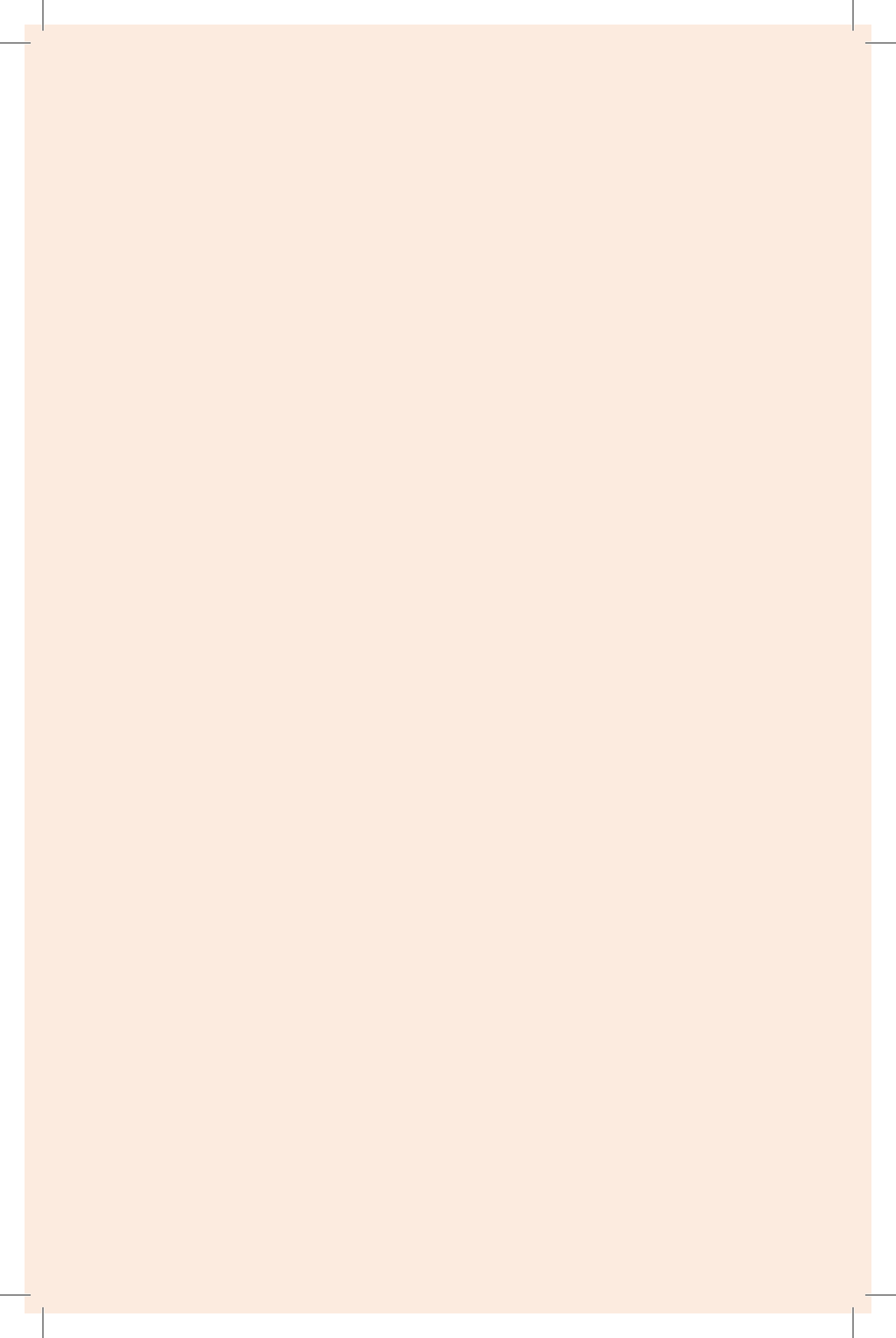
(Under the Administrative Control of Ministry of Commerce and Industry, Govt. of India)

34 km Stone, Delhi-Mathura Road (NH-2)

Ballabgarh-121 004, Haryana, India

www.ncbindia.com

www.ncbseminar.com



WELCOME DELEGATES

Dear Delegates

It gives me immense pleasure to welcome you all to the 16th NCB International Seminar on Cement, Concrete and Building Materials being held in New Delhi, India.



The objective of this biennial International Event, eagerly awaited by the industry, researchers and academia alike is to bring together the planners, policymakers, technocrats and the scientific & engineering community from across the globe on to a common platform for disseminating knowledge on latest innovations to take India's growth story forward.

The technical deliberations shall comprise of about 200 presentations in 24 technical sessions covering wide spectrum of themes relating to cement, concrete and construction sectors. Special technical sessions on emerging topics and Panel discussions on "Cement and Construction Industry – A Convergence Point of Circular Economy" and "Changing Climate - A Threat or Opportunity for Cement Industry" with eminent Keynote Speakers and Panelists; release of 2nd edition of Compendium - The Cement Industry - India 2019 will be the highlights of this Seminar.

Concurrently held Technical Exhibition showcases latest products and developments in plant and machinery, automation systems from most of the world's leading companies.

On behalf of the Organizing Committee of the Seminar, I extend my sincere thanks to the Hon'ble Ministers, Key officials from Govt of India, Panelists, Keynote Speakers, authors of technical papers, sponsors, exhibitors, media partners, dignitaries and all delegates.

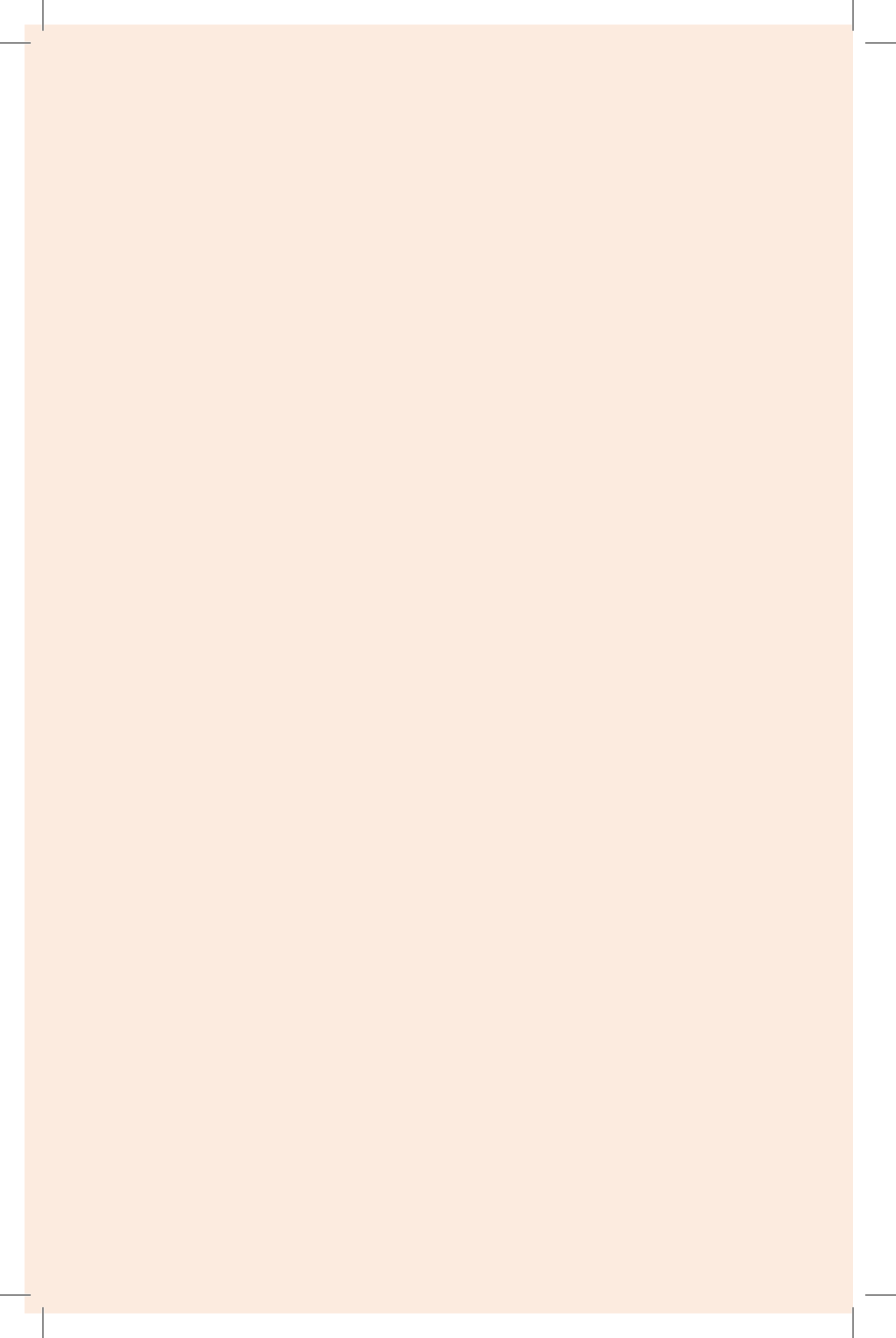
We hope the seminar will provide a rewarding experience to all.

Kind Regards

Dr. B.N. Mohapatra

Director General - NCB

Chairman - 16th NCB International Seminar Organizing Committee



SEMINAR & EXHIBITION AT A GLANCE 03-06 DECEMBER 2019

Venue : Manekshaw Centre, Parade Road, Delhi Cantt., New Delhi-110 010

Seminar : • Zorawar Auditorium • Ashoka Convention Hall

Exhibition : • Exhibition Halls • Exhibition Ground

REGISTRATION (AT VENUE):

Monday, 02 December 2019
1400 h to 1800 h

Tuesday, 03 December 2019
0830 h to 0950 h

PROGRAMME

INAUGURAL SESSION

Tuesday, 03 December 2019

Zorawar Auditorium PD-I: Cement and Construction Industry- A
Convergence Point of Circular Economy
STS: Emerging Technological Options for Improving the
Application Potential of Blended Portland Cement
TS-I A: Raw Material Resource Management
TS-II A: Alternate / Waste Fuels and Raw Materials
PD-II: Changing Climate - A Threat or Opportunity for
Cement Industry

Ashoka Convention Hall TS-I B: Portland, Blended and Special Cements – I
TS-II B: Portland, Blended and Special Cements – II

Wednesday 04 December 2019

Zorawar Auditorium TS-III A: Advances in Grinding Systems-I
TS-IV A: Cement Plant Machinery and Project Engineering
STS: Keynote Presentations
TS-V A: Productivity Enhancement and Process
Optimization

Ashoka Convention Hall TS-III B: Emerging Trends - I
TS-IV B: Emerging Trends- II
TS-V B: Total Quality Management

Thursday 05 December 2019

Zorawar Auditorium TS-VI A: Refractory Management and Process
Optimization
TS-VII A: Energy Conservation Systems-I
TS-VIII A: Advances in Grinding Systems-II
TS-IX A: Environmental Management and Sustainable
Development-I

Ashoka Convention Hall TS-VI B: Analytical Methods and Lab Automation
TS-VII B: Smart and High Performance Concrete
TS-VIII B: Performance and Durability of Concrete- I
TS-IX B: Distress Investigation, Repair/ Strengthening/
Retrofitting of Concrete Structures

Friday 06 December 2019

Zorawar Auditorium	TS-X A: Environmental Management and Sustainable Development-II TS-XI A: Environmental Management and Sustainable Development-III TS-XII A: Energy Conservation Systems-II
Ashoka Convention Hall	TS-X B: Special Session for Students TS-XI B: Performance and Durability of Concrete- II TS-XII B: Sustainable Construction Practices and other Building Materials and Binders
Zorawar Auditorium	Concluding Session

PRESENTATION OF PAPERS

Considering the overwhelming response for Technical Papers and in order to give opportunity to all authors to present their papers, the time for presentation has been limited to 10 minutes per paper, depending on the number of papers actually presented in a Session. Accordingly the authors are requested to adhere to the time limit as decided by the Chairman of the Technical Session.

PARTICIPATION IN DISCUSSIONS

Delegates, who wish to participate in the discussion in a Technical Session, are requested to fill in the Discussion Slips (provided in the Seminar Kit) indicating clearly the title of the paper, name of the author to whom the question is addressed and question/comments. The question or comments should be brief and to the point.

The duly filled in Discussion Slips should be handed over immediately after the presentation of Technical Papers to any NCB Guide (wearing yellow name badges) in the Seminar Hall.

AUDIO-VISUAL PROJECTION FACILITIES

Presentation of Papers will be facilitated through Computer system with MS PowerPoint.

NCB GUIDES

NCB Guides, identified by their yellow colour name badges, are available at the Seminar Venue to assist the delegates.

HELP DESK AND MEDICAL ATTENTION

Information regarding all activities of the Seminar as also First Aid facilities are available at the Help Desk located in the corridor outside the Seminar Hall.

Emergency medical attention can also be arranged through Help Desk.

LUNCH COUPONS

Participation in lunch is facilitated through coupons provided to the delegates. Participants must bring relevant coupon for the day and hand over the same at the lunch counter.

FULL PAPERS

Registered delegates are requested to login username (email ID) and password used at the time of registering can download the complete proceedings soft copy www.ncbseminar.com during 20 December 2019 to 20 January 2020.

Tuesday, 03 December 2019

1000 h to 1110 h

INAUGURAL SESSION

Venue - Zorawar Auditorium

Invocation

Lighting of Lamp

Welcome Address & Technology Perspective by **Dr B N Mohapatra**,
Director General - NCB

Cement Industry - Future Outlook, Challenges and Opportunities by
Shri Mahendra Singhi, Chairman - NCB, President - Cement Manufacturers'
Association & MD & CEO, Dalmia Cement (Bharat) Ltd.

Cement Industry Perspective by **Shri K K Maheshwari**,
Managing Director, UltraTech Cement Ltd.

Government Initiatives for Cement & Construction Sector by **Shri Anil Agrawal**,
Joint Secretary, DPIIT, Ministry of Commerce and Industry, Govt. of India

Release of Seminar Proceedings & Inaugural Address by Chief Guest
Dr Guruprasad Mohapatra, Secretary, DPIIT, Ministry of Commerce and Industry,
Govt. of India

Vote of Thanks by **Dr S K Chaturvedi**, Organising Secretary 16th NCB
International Seminar

1110 h to 1130 h

INAUGURATION OF TECHNICAL EXHIBITION

1130 h to 1150 h

WELCOME GET-TOGETHER

Hosted by Birla Corporation Ltd.

1150 h to 1250 h (Plenary Session)

PANEL DISCUSSION-I

Zorawar Auditorium

Cement and Construction Industry- A Convergence Point of Circular Economy

1250 h to 1320 h (Plenary Session)

SPECIAL TECHNICAL SESSION

Zorawar Auditorium

Emerging Technological Options for Improving the Application Potential of
Blended Portland Cement

Dr Anjan Kumar Chatterjee, *Chairman, Conmat Technologies Pvt. Ltd.*

1320 h to 1410 h

LUNCH

Hosted by Dalmia Cement (Bharat) Ltd.

1410 h to 1520 h (Parallel Session)

TECHNICAL SESSION – I A

Zorawar Auditorium

RAW MATERIAL RESOURCE MANAGEMENT

1. Use of High MgO Limestone in Portland Cement Manufacture : An Indian Perspective
G C Mishra and K N Bhattacharjee, AKS University Satna, India
2. Use of High Phosphate Limestone in Cement Manufacture – A Case Study
M V Karandikar and Ashish Prasad, ACC Ltd, India
3. Value Engineered Raw Material and Cement Grinding Plants
Stefan Diedenhofen and Franz-Josef Zurhove, Thyssenkrupp Industrial Solutions AG, Germany
4. Synopsis: Indian Cement Industry – A Perspective
Jagdeep Verma, Holtec Consulting Pvt Ltd, India
5. Reduction in LSF of Lime Stone Pile at Chanderia Cement Works Plant
Dinesh Kumar, D Banerjee and K K Singh, Birla Corporation Ltd, India
6. Conservation and Maximization of Limestone Reserves by Adopting Suitable Mining Process (Case Studies)
Richa Mazumdar, Subrat Sahoo, A K Dubey and D K Panda, National Council for Cement and Building Materials, India

1410 h to 1520 h (Parallel Session)

TECHNICAL SESSION – I B

Ashoka Convention Hall

PORTLAND, BLENDED AND SPECIAL CEMENTS – I

1. High Magnesia (MgO) Clinker for the Manufacture of PPC and PSC
B N Mohapatra, G Ahamed, G J Naidu, Suresh Palla, G Bhatnagar and S K Chaturvedi, National Council for Cement and Building Materials, India
2. Properties of Calcined Clay Based Geopolymer Mortars in Presence of Alccofine Powder and Polymer Fiber at Room Temperature
S K Saxena, Mukesh Kumar, S K Wali and N B Singh, JK Lakshmi Cement Ltd, India
3. Increase Utilization of Fly Ash in PPC at Chanderia Cement Works Plant
Dinesh Kumar, D Banerjee, D C Jagetiya and Narpat Anjana, Birla Corporation Ltd, India
4. Investigation on Utilization of Wollastonite in Manufacture of OPC Clinker
Varsha Liju, S K Chaturvedi and B N Mohapatra, National Council for Cement and Building Materials, India S Sridhar, Wolkem India Ltd Udaipur, India Mukesh Kumar and S K Saxena, J K Lakshmi Cement Ltd Jajjar, India
5. Determination of Slag & Flyash Content in Composite Cement by X-Ray Diffraction Method
Vaibhav Dixit, Hemant Sahu, Asit Parui, S V Kadam and K Rajesh, ACC Ltd, India

- Investigations on Improving the Performance of Composite Cement by Separate Grinding of Constituents
Varsha Liju, Giasuddin Ahamed, P Pandey, M Sharma, M Pawar, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials, India*

1520 h to 1630 h (Parallel Session)

TECHNICAL SESSION – II A

Zorawar Auditorium

ALTERNATE / WASTE FUELS AND RAW MATERIALS

- LD Slag Utilization for Clinker Production
Lokesh Bahety and Chandan Sengupta, *Dalmia Cement (Bharat) Ltd, India*
- AFR Handling System
Michal Hrala, *BEUMER Group, Czech Republic*
- Handling of Multi type Alternative Fuels: A Challenge and Opportunity for Cement Plant
Kapil Kukreja, Anupam, Prateek Sharma and Saurabh Bhatnagar, *National Council for Cement and Building Materials, India*
- Increased Usage of AFR
Dinesh Kumar, K S Gour, R K Sharma, Narpat Anjana and R P Badoni, *Birla Corporation Ltd, India*
- Use of De-Carbonated Material 'LD SLAG' in the Manufacture of Portland Clinker
S K Agarwal, Varsha Liju, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials, India*
Subhdra Sen, A K Gupta, Nabonita Das and R V Ramna, *Tata Steel Ltd Jamshedpur, India*
- Fly Ash and Eggshell Utilization in Portland Cement
Mukesh Kumar, S K Saxena, S K Wali and N B Singh, *JK Lakshmi Cement Ltd, India*
- Utilization of Leather Sludge in Cement Manufacture
Devender Yadav, Suresh Palla, S Vanguri, G J Naidu, M Verma, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials, India*

1520 h to 1630 h (Parallel Session)

TECHNICAL SESSION – II B

Ashoka Convention Hall

PORTLAND, BLENDED AND SPECIAL CEMENTS – II

- Cost Saving by Optimization/uses of Overburden Limestone of Mines in Clinkerization Without affecting the Clinker Quality
Pankaj Kejriwal, S P Shrimali, Y K Singh, S K Pandey and Sanjay Chourasia, *Star Cement, India*

2. Investigation on Mechanical Properties of Portland Limestone Cements Prepared Using Different Grade Limestone
J P Vрати, K V Singh, A K Raykundalia and B C Pandey, Ambuja Cements Ltd, India S K Agarwal, R Singh, S K Chaturvedi and B N Mohapatra, National Council for Cement and Building Materials, India
3. Increased Utilization of Fly Ash in PPC at Birla Cement Works
Dinesh Kumar, D Banerjee, Narpat Anjana and G Palod, Birla Corporation Ltd, India
4. Effect of LD Slag on the Physical Performance of Composite Cement
Giasuddin Ahamed, Varsha Liju, P Sharma, Ashish Goyal, S K Chaturvedi and B N Mohapatra, National Council for Cement and Building Materials, India
5. Composite Cement & its advantage
M K Kapoor and Vivek Agnihotri, Prism Jhonson Cement Ltd, India
6. Influence of Fly Ash Fineness on its Mechanical Properties
Suresh Vanguri, T Mohan Rao, Suresh Palla, V Ramaswamy, K V Kalyani, S K Chaturvedi and B N Mohapatra, National Council for Cement and Building Materials, India
7. Investigations on development of Portland Composite Cements based on Flyash and limestone
B N Mohapatra, Varsha Liju, S Palla, S Vanguri, R Gupta, O P Sharma and S K Chaturvedi, National Council for Cement and Building Material, India

1630 h to 1700 h
 TEA/COFFEE

1700 h to 1750 h (Plenary Session)

PANEL DISCUSSION –II

Zorawar Auditorium

Changing Climate- A Threat or Opportunity for Cement Industry

1750 h to 1900 h (Plenary Session)

SPECIAL SESSION

Zorawar Auditorium

Welcome Address by **Dr B N Mohapatra**, Director General - NCB

Address by **Shri Mahendra Singhi**, Chairman - NCB, President - Cement Manufacturers' Association and MD & CEO, Dalmia Cement (Bharat) Ltd.

Release of Compendium "The Cement Industry - India 2019" by **Shri Piyush Goyal**, Hon'ble Minister of Commerce and Industry & Railways, Govt. of India

About the National Awards for Energy Efficiency, Environmental and Quality Excellence in the Indian Cement Industry by **Shri Anil Agrawal**, Joint Secretary, DPIIT, Ministry of Commerce and Industry, Govt. of India

Distribution of National Awards & Address by **Shri Piyush Goyal**, Hon'ble Minister of Commerce and Industry & Railways, Govt. of India

Vote of Thanks

Wednesday, 04 December 2019

0900 h to 1045 h (Parallel Session)

TECHNICAL SESSION – III A

ADVANCES IN GRINDING SYSTEMS-I

Zorawar Auditorium

1. Grinding Process Optimization Levers to Pull
Caroline Woywadt and Bernd Henrich, *Gebr Pfeiffer SE, Kaiserslautern, Germany*
2. Operations and Maintenance of HPGR Rolls
Rahul Deshmukh, *Thyssenkrupp Industries India Pvt Ltd, India*
Prashant Garg, *Diffusion Engineers Ltd, India*
3. Roller Press in Finish Mode for Composite Cements: Unique Cement Experiences in Bangladesh
A K Singh, Balesh Singh, Saida Shaik and Akshay Singh,
Humboldt Wedag India Pvt Ltd, India
4. Guinness World Record- Largest Grinding VRM: OK™ 81-6 MILL
A Janardhanan and John Terembula, *FLSmidth Pvt Ltd, India*
5. System Design - Optimization in Grinding and Pyro processing system
Sivakumar Natesan and Murali Krishnan Kanagaraj, *FLSmidth Pvt Ltd, India*
6. Operation of Clinker Grinding at Penna Cement,
Krishnapatnam M S Marathe and Vinod Wadile, *Thyssenkrupp Industries India Pvt Ltd, India*
7. Grinding Components – The New Wear Management
Dorival G Tecco, *Pronamic, India*
8. Optimization of Raw Grinding VRM at Chanderia Cement Works Plant
Narpat Anjana, R C Jain and Dinesh Badala, *Birla Corporation Ltd, India*
9. Roller Press Circuits: Latest Developments and Stepping into Large Capacity Plants
York Reichardt, *KHD Humboldt Wedag, Cologne, Germany* **A K Dembla and Vanam Venkatesh**, *Humboldt Wedag India Pvt Ltd, India*

0900 h to 1045 h (Parallel Session)

TECHNICAL SESSION – III B

EMERGING TRENDS - I

Ashoka Convention Hall

1. Characterizing the Effect of Specialty Materials on the Rheology of free form Concrete Used for 3D Printing
A Rajendran, K Suresh and Raju Goyal, *UltraTech Cement Ltd, India*

2. Vegetal Concrete: A Foundation for Carbon Neutral Built Environment
Tarun Jami, L P Singh and S R Karade, CSIR-Central Building Research Institute Roorkee, India
3. White Topping: Cement Concrete Overlay on Bituminous Roads
Binod Kumar, CSIR-Central Road Research Institute New Delhi, India
4. Partially Calcined Lime Sludge in Cement Mortar: An Environmental Friendly Approach
Prabhat Vashistha and S K Singh, CSIR-Central Building Research Institute Roorkee, India
5. Experimental Investigation of Ferrochrome Slag as Aggregate in Concrete
P N Ojha, Amit Trivedi, Nikhil Kaushik and Vaibhav Chawla, National Council for Cement and Building Materials, India
6. Utilization & Impact of Wet Flyash
V J Mitra, Naresh Singh, A Chandilyan and Anil Bajaj, Dalmia Cement (Bharat) Ltd, India
7. Separation of Different Type of Slag by Magnetic Pulley
A Chandilyan, V J Mitra and Anil Bajaj, Dalmia Cement (Bharat) Ltd, India
8. Pyro Process: Approach for Low Carbon Roadmap
Jens Breidenbach and Andreas Hand, KHD Humboldt Wedag, Cologne, Germany Anurag Johari, Humboldt Wedag India Pvt Ltd, India
9. Petcoke Additive Chemical for Improved Petcoke Burning in Cement Industry
Halim Tekkesin, Nuh Cemento San. A S, Turkey V Govinda Rao, Triple I Engineers, India

1045 h to 1115 h

TEA/COFFEE

1115 h to 1300 h (Parallel Session)

TECHNICAL SESSION – IV A

Zorawar Auditorium

CEMENT PLANT MACHINERY AND PROJECT ENGINEERING

1. Technology Upgradation & Modernization for Inbound & Outbound vehicle
Manoranjan Sahoo and Santanu Giri, Dalmia Cement (Bharat) Ltd, India
2. Increasing efficiency in India's packing and dispatch operations
Stephan Oehme, FLSmidth Pvt Ltd, India
3. Sampling and Safe Unloading Procedure of Carbon Black/Fly Ash
A V Nagaraja and Naresh Singh, Dalmia Cement (Bharat) Ltd, India
4. Cement Mill Productivity Improvements by Process Optimisation
R B M Tripathi, Umashankar Choudhary and Rajakumaran Kandasamy, JK Cement Ltd, India

5. Mitigating Effects of Harmonics on Power System in Cement Industry
S Peddanna and R P Singh, *ERCOM Engineers Pvt Ltd, India*
6. Paper on Optimizing the Fan Power of Vertical Roller Mill (Raw Mill) through Modification in Louver Ring
Rajpal Singh Shekhawat, Pankaj Tiwari and Manish Vijay,
JK Lakshmi Cement Ltd, India.
7. Technologies for Upgradation & Modernization of Pollution Control Equipment in Cement Plant
Henrik Vittrup Pedersen, Flemming Jensen and Unmesh Chandran,
FLSmidth Automation, India
8. KHD Cooling Lines: PFC2 & PSC2 Cooler
Andreas Hand, *KHD Humboldt Wedag, Cologne, Germany*
Ravi Saksena and Anurag Johari, *Humboldt Wedag, India Pvt Ltd*
9. State of the Art Cooler replacement - flexible, quick, efficient
Andre Vos and Ingmar Holst, *Claudius Peters, Germany*

1115 h to 1300 h (Parallel Session)

TECHNICAL SESSION – IV B
EMERGING TRENDS- II

Ashoka Convention Hall

1. Uncooler/Activator Feeder for Coal Extraction
K S Nalwaya and Jogesh Narula, *KSN Tech Ventures Pvt Ltd, India*
Yong Wei, *General Kinematics - Crystal Lake, Chicago Area, USA*
2. 3D Printable concrete: Designed by Local Materials
Shrivats Singhania, S K Wali, S K Saxena and Mukesh Kumar,
JK Lakshmi Cement Ltd, India
3. New Technologies by ATS-Group for Alternative Solid Fuels Handling
Luc Rieffel, *ATS Conveyors India Pvt Ltd, India*
4. Development of Belite Calcium Sulpho-Aluminate Cement using Low Grade Limestone and Industrial Waste.
B N Mohapatra, G J Naidu, Suresh Palla, S Vanguri, Varsha Liju, M Kumar and S K Chaturvedi, *National Council for Cement and Building Materials, India*
5. India Advances in Concrete Paving Two-Layer Technology
R K Jain, *DCRUST, India*
6. Phase Equilibrium Studies on the Effect of Mineralizers on the Formation of High Temperature Ionic Liquid of CaO-SiO₂-Al₂O₃-Fe₂O₃-MgO System
Tazuddin and Amit Chatterjee, *Aditya Birla Science & Technology Pvt Ltd, India*
7. The Influence of Chemical and Mineralogical Variability on the Grinding Behaviour of Limestone
A Sadangi, M Kuchya, A K Singh, K Suresh and Raju Goyal,
UltraTech Cement Ltd, India

8. Improving Logistics and Supply Chain in Cement Industry
Ravindra Kumar Singh, *BEUMER India Pvt Ltd, India*
9. Improvement of Ash Quality Through Chemical /Mineral Doping in Coal During its Generation
G J Naidu, Suresh Palla, S Vanguri, Giasuddin Ahamed, Firoz Ahmed, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials, India*

1300 h to 1400 h

LUNCH

Hosted by UltraTech Cement Ltd.

1400 h to 1545 h (Plenary Session)

SPECIAL TECHNICAL SESSION **SUSTAINABLE CONSTRUCTION PRACTICES**

Zorawar Auditorium

Welcome Address by **Dr B N Mohapatra**, Director General - NCB

Address by **Shri Mahendra Singhi**, Chairman - NCB, President - Cement Manufacturers' Association and MD & CEO, Dalmia Cement (Bharat) Ltd.

Release of "NCCBM Newsletter" and Address by **Shri Som Parkash**, Hon'ble Minister of State for Commerce and Industry, Govt. of India

Keynote Presentations

1. Sustainability Assessment of Concrete Systems with Alternate Binders
Dr Ravindra Gettu, *Indian Institute of Technology Madras, India*
2. Smart Cement-Based Composites – A Review
Dr Dhanada K Mishra, *Hong Kong University of Science and Technology, Hong Kong*

Concluding Remarks and Vote of Thanks by **Shri V V Arora**, Joint Director - NCB

1545 h to 1615 h

TEA/COFFEE

1615 h to 1800 h (Parallel Session)

TECHNICAL SESSION – V A **PRODUCTIVITY ENHANCEMENT AND PROCESS OPTIMIZATION**

Zorawar Auditorium

1. Modification of Cement Mill Bag House Purging Sequence & Increased The PPC Output by 10%
A V N S Murthy, T Robert and M Narsi Reddy, *Dalmia Cement (Bharat) Ltd, India*

2. Customer Partnering through Reliable & Resourceful Services & Product Offerings
Sitaram Sharma and K Vikram, Humboldt Wedag India Pvt Ltd, India
3. Increased Usage of Alternate Fuels & Raw Materials by In-House Modification
A V N S Murthy, T Robert and G Sakthivel, Dalmia Cement (Bharat) Ltd, India
4. Improving the Electrical Energy Consumption of Clinker Production – Recent Design Improvements
Sebastian Frie, ThyssenKrupp Industrial Solutions AG, Germany
5. Increase of Kiln-2 Throughput by 300 TPD
Lokesh Bahety and Rakesh Nayak, Dalmia Cement (Bharat) Ltd, India
6. Optimization to Enhance Productivity, Quality & Operation Performance for Composite Cement.
Manoranjan Sahoo, Dalmia Cement (Bharat) Ltd, India
Sougata Mahanti, Bengal Cement Works, India
7. Reduction of Raw Mill - 2 SPC by Increasing the Feed
Lokesh Bahety and Debi Prasad Das, Dalmia Cement (Bharat) Ltd, India
8. Reducing Power consumption of PH fans by CFD application and improving production
Pritam Hukire and Akshay Shah, Mechwell Industries Ltd, India
9. Detailed CFD Model for Predicting combustion, Calcination and Pollutant Formation in Calciner
Shital Mone, B S Gawali and M S Joshi, Walchand College of Engg, India
Vivek Vitankar, FluiDimensions, India

1615 h to 1800 h (Parallel Session)

TECHNICAL SESSION – V B

Ashoka Convention Hall

TOTAL QUALITY MANAGEMENT

1. Total Quality Management (TQM) (TEI - A Key to its Implementation & Success)
O P Agrawal, Qualman Consultancy Services, India
B N Mohapatra, P N Ojha and Abhishek Agnihotri, National Council for Cement and Building Materials, India
2. Excellence in Quality Management System through PDCA Model-An Enabler of Business Growth
R Rajamohan, K Vinayagamurthi and R A Krishnakumar, Dalmia Cement (Bharat) Ltd, India

3. How to Achieve Stability in Quality and Process using Advance Predictive Lab Techniques
Roger Meier, *FLSmidth Automation, Denmark*
S. Sankaralingam, *FLSmidth Automation, India*
4. Market Study - Approach and Methodology for Cement Industry
Rahul Kumar Sadhu and Sharad Prahlad Aggarwal,
ERCOM Engineers Pvt. Ltd, India
5. Importance of ISO: 17020 Implementation for Quality Assurance System in Construction Industry
Vikas Patel, B Pandu Ranga Rao, Brijesh Singh and V V Arora,
National Council for Cement and Building Materials, India
6. Role of a Project Management Consultant (PMC)
S K Gupta, *Holtec Consulting Pvt Ltd, India*
7. Producing Cement in Sustainable Way for Better Tomorrow
Santosh Kumar Sharma, *Orient Cement, India*
8. Quality Management System in Construction Projects
Raksha Rajani D Souza, Lavanya A R and Janakaraj M, *NMAM Institute of Technology, India*
Umesh R, *Rohini Project Management Consultants Pvt Ltd, India*
9. Role of Calibration in Managing Measurement Risk and Decision Rule
P Srikanth, R P Vijayvergia, Rishi Raj and P N Ojha,
National Council for Cement and Building Materials, India

1830 h to 1930 h

CULTURAL PROGRAMME

1930 h

DINNER

Hosted by **Director General NCB and KHD Humboldt Wedag India Pvt. Ltd.**

Thursday, 05 December 2019

0900 h to 1045 h (Parallel Session)

TECHNICAL SESSION – VI A

Zorawar Auditorium

REFRACTORY MANAGEMENT AND PROCESS OPTIMIZATION

1. Modern Solutions in Refractory Castables for Critical Areas in Cement Kilns
Sumanta Mukhopadhyay and Manoranjan Nayak, Dalmia Refractories Ltd, India
2. JETFLEX® Burner Performance for Maximising Combustion of Alternate Fuels and Reducing NOx Emissions
David Jayanth and Ram Kumar Sridharan, FLSmidth Pvt Ltd, India
Morten Pedersen, FLSmidth A/S, Denmark
3. Causes of Unwanted Coatings/ Buildups in Kilns of Meghalaya-Cement Plants and its Remedial Measures
Satyendra Katiyar, Sudesh Sharma, Pramod Kumar Pandey and P Karajagi, Gold Stone Cement Plant, India
4. A Cooler for the Future
F Lichomski, IKN GmbH, Germany
M Rasiraju, IKN India Pvt Ltd, India
5. Total Productivity Enhancement and Cost Reduction Techniques
Shivam Agarwal, Subham Agarwal and Avijit Dhole, JBS Associates, India
6. High Performance Precast Solution for Cement Plant Critical Zones
Purushottam Bedare and Parthasarathi Mukhopadhyay, Vesuvius India Ltd, India
Stephen Woodcock, Vesuvius UK Ltd, UK
7. New Lining Concept by Using Alumina Bricks in place of Basic Refractories in Cement Rotary Kiln
J P Nayak, B Ghosh, R Adhikari, R Dey, A Tripathy, S Sengupta and P B Panda, TRL Krosaki Refractories Ltd, India
8. New Development for Time Saving - Calde RDS-PRE-Cast-Pre-Fired-Solution
Saumen Sinha, Alok Nagar, Rajeev Kumar Laharia, R Chokkar and Satwinder Kalsi, Calderys India Refractories Limited Nagpur, India
9. Innovation in Open Gear Lubrication
Satheesh Kumar and Joseph Robert, Klüber Lubrication India Pvt Ltd, India

0900 h to 1045 h (Parallel Session)

TECHNICAL SESSION – VI B

Ashoka Convention Hall

ANALYTICAL METHODS AND LAB AUTOMATION

1. Importance of Calibration Standard, Sample Preparation and Evaluation of Analysis Results in XRF Analysis in Cement Production
Hisashi Inoue, Yasushi Kusakabe, Kosuke Kawakyu, Einoshin Kamota and Yasujiro Yamada, Rigaku Corporation, Japan

2. Improving the Reactivity of Fly Ash during its Generation & Effect on Cement Performance
M V Karandikar, D D Kulkarni, A Shah, A Morajkar and V Sagvekar,
ACC Limited, India
3. Comprehensive Methodology for Guiding the Process Dynamics Based on Mineralogical Assessment of OPC Clinker by Microscopy & X-ray Diffractometry
Jai Prakash Vrati, Kamal Virendra Singh, Ashwin K Raykundaliya and B C Pandey, *Ambuja Cements Ltd, India*
4. Chemical Composition and Bond Work Index of Limestone – Correlation
Suresh Vanguri, G Prasad, A Sushmitha, M Balaraju, G Jayaramudu, P Janardhan, V Rama and S K Chaturvedi, *National Council for Cement and Building Materials, India*
5. Mineralogical and Microscopy Techniques as Effective Diagnostic Tool for Process Control and Quality Monitoring in Cement Manufacturing Process
Bjiu Mathew and M.V Karandikar, *ACC Ltd, India*
6. Determination of Fly Ash Parameters to Develop a Simple and Effective Blending Technique to Reduce the Variation in Fly Ash Concretes.
Satya Medepalli and Shashank Bishnoi, *Indian Institute of Technology Delhi, India*
7. Development of BND – Indian Certified Reference Materials for Cement and Cementitious Materials to Support National Traceability
Suresh Kumar Shaw, V Naga Kumar, Abhishek Agnihotri and P N Ojha, *National Council for Cement and Building Materials, India*
8. Role of Proficiency Testing (PT) in the field of Cement and Building Materials
V Naga Kumar, Suresh Kumar Shaw, Abhishek Agnihotri and P N Ojha, *National Council for Cement and Building Materials, India*

1045 h to 1115 h
TEA/COFFEE

1115 h to 1300 h (Parallel Session)

TECHNICAL SESSION – VII A
ENERGY CONSERVATION SYSTEMS-I

Zorawar Auditorium

1. False Air Reduction- The Method of Reducing Carbon Footprint in Cement Plants
K K Sharma, *Invotech Industrial Solutions Pvt Ltd, India*
2. Improved energy efficiency in CPP
K A Mathew and Narendra Prasad Barik, *Dalmia Cement (Bharat) Ltd, India*
3. Cooler ESP Efficiency Enhancement
K A Mathew and Rajesh Chandravansh, *Dalmia Cement (Bharat) Ltd, India*

4. Energy Conservation by Adapting & Incorporating Energy Efficient Technologies and Operations
D Kumaresan, R Rajamohan and K Vinayagamurthi,
Dalmia Cement (Bharat) Ltd, India
5. Eco-Friendly Transportation of Cement for Construction of Amaravati Capital – Case Study
G V K Prasad, *The KCP Ltd, India*
6. Reduction in Thermal Energy Consumption at Chanderia Cement Works Plant
Dinesh Kumar, D Banerjee, D C Jagetiya and Narpat Anjana,
Birla Corporation Ltd, India
7. Role of Captive Power Plants in Achieving P A T Energy Targets for Indian Cement Industry
Prateek Sharma, Ankur Mittal, M V Ramachandra Rao, V Venkatesh, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials, India*
8. Study of empirical relation between proximate analysis data and gross calorific value of coal
Jishnu Devan Sankaran, *Century Textiles & Industries Ltd. (Cement Division), India*
9. Energy Audit of Waste Heat Recovery Systems of Cement Plants in India: Case studies
Prateek Sharma, Ankur Mittal, M V Ramachandra Rao, K P K Reddy, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials, India*

1115 h to 1300 h (Parallel Session)

TECHNICAL SESSION – VII B

Ashoka Convention Hall

SMART AND HIGH PERFORMANCE CONCRETE

1. Stress Strain Characteristics of High Strength Concrete with Steel Fibers using Blended Cements.
Brijesh Singh, V V Arora, Vikas Patel, Amit Trivedi and Megha Kalra,
National Council for Cement and Building Materials, India
2. Experimental Shear Study on Reinforced High Strength Concrete Beams.
V V Arora, Brijesh Singh, Vikas Patel, Amit Trivedi and Lalit Kumar,
National Council for Cement and Building Materials, India
3. Evolution of Concrete Mixture Design Methods and Ignored Issues
Subrata Chowdhury, *Conmat Technologies, India*

4. Compatibility Issues of Flyash Based Cements with Nanomaterials like Nano-Silica
Mainak Ghosal, *Indian Institute of Engineering Science & Technology Shibpur, India*
Arun Kr Chakraborty, *Indian Institute of Engineering Science & Technology Howrah, India*
S Thomas, *International and Inter university Centre for Nanoscience and Nanotechnology, MG University, India*
5. Role of Packing Density, Mixing Efficiency and Curing Regime on Development of UHPC.
P N Ojha, Abhishek Singh, Piyush Mittal, Brijesh Singh and V V Arora,
National Council for Cement and Building Materials, India
6. Synergy of Micro Slag in High Volume Flyash Concrete
Praveen Kumar, *Rajasthan Technical University, India*
Zafar Ahmed Sultani, *NHAI Godhra Gujrat, India*
7. Ultra-High Performance Environment-Friendly Concrete
Kumar Shaswat, *Bennett University Greater Noida, India*

1300 h to 1400 h

LUNCH

1400 h to 1545 h (Parallel Session)

TECHNICAL SESSION – VIII A

ADVANCES IN GRINDING SYSTEMS-II

Zorawar Auditorium

1. Product Optimization by using Grinding Aid at Prism Johnson Limited, Satna MP
Pravesh Kumar Sharma, Ghanshyam Mishra, Raghvendra Pandey, Rajendra Kumar Jha, Dinesh Agrawal, Manish Kumar Singh and Manoj Kumar Jha, *Prism Johnson Ltd (Cement Division), India*
2. Energy Efficient VRM Technology for Cement and Slag Grinding
Y Shigemoto, T Hinauchi and K. Edamura, *UBE Machinery Corporation Ltd, India*
R K Sharma, *AMCL Machinery Ltd, India*
3. HEXADUR® in Cement Industry - 25 years of Operation with HEXADUR® Protected HPGR Rollers
Ing Jörg Oligmüller, Ing Andreas Packeisen and Kaushik Ghosh,
Koepfern, Germany
4. Efficient Grinding of Limestone along with Slurry Material in Gebr. Pfeiffer VRM for Utilization of Grey Siliceous Limestone at Chaibasa Cement Works
Raghvendra Singh and Piush Mishra Gebr. Pfeiffer (India) Pvt Ltd, India.
Sudipto Mondal, *Chaibasa Cement Works (A Unit of ACC Ltd), India*

5. Consolidated Journey of More than 100 Roller Presses in India
Balesh Singh, PVR Murthy, Atul Johri and Vimal Singh, KHD Humboldt Wedag India Pvt Ltd, India
6. Raw Mill Finish Mode Grinding @ 10.5 kwh/MT
Swapnil S Kotpalliwar, Dalmia Cement (Bharat) Ltd, India
7. JSW Green Foot Prints: Experiences with KHD Roller Presses
G Veera Babu, JSW Cement Ltd, India A K Dembla, Prakash Patil and Deepti Varshney, Humboldt Wedag India Pvt Ltd, India
8. Increase Throughput of Cement Mills at Chanderia Cement Works Plant
Dinesh Kumar, D C Jagetiya and Narpat Anjana, Birla Corporation Ltd, India
9. Optimization of Raw Grinding Roller Press at Chanderia Cement Works Plant
Narpat Anjana, R C Jain and Dinesh Badala, Birla Corporation Ltd, India

1400 h to 1545 h (Parallel Session)

TECHNICAL SESSION – VIII B

Ashoka Convention Hall

PERFORMANCE AND DURABILITY OF CONCRETE- I

1. Study of Behavior of Polypropylene Fiber Reinforced High Strength Concrete Exposed to Higher Temperature
Vikas Patel, V V Arora, Brijesh Singh, Megha Kalra and Sahara Adhikari, National Council for Cement and Building Materials, India
2. Low Carbon Cements : The Good and the Bad
Shashank Bishnoi, Indian Institute of Technology Delhi, India
3. Assessment of Mechanical and Mineralogical Properties of Concrete Dams in India
**Brijesh Singh, V V Arora, Shubham Jain and Vikas Patel, National Council for Cement and Building Materials, India
Pramod Narayan Dam Safety Rehabilitation Directorate, Central Water Commission, India**
4. Fast Track Construction Systems for Affordable Housing – Need of the Hour
Shailesh Kr Agrawal, BMTPC, India
5. Material Efficient Floor System for Housing in India
Mohamed Ismail and Caitlin T Mueller, Massachusetts Institute of Technology, USA B Jain, S Maity and S Patara, Technology and Action for Rural Advancement (TARA), India
6. Comparative Study of Characteristics of OPC-53 grade of Cement and its Influence on Water Demand and Rheological Properties of Concrete
P N Ojha, G J Naidu, Suresh Palla and Piyush Mittal, National Council for Cement and Building Materials, India

7. Performance Analysis of In-Service RC Members of Turbo Generator in India - A Comparative Study of Service Life Assessment
Sanjay Mundra, T V G Reddy and Naman Agarwal, *National Council for Cement and Building Materials, India*

1545 h to 1615 h

TEA/COFFEE

1615 h to 1800 h (Parallel Session)

TECHNICAL SESSION – IX A

Zorawar Auditorium

ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT-I

1. Technological up-gradation & sustainability initiatives in Kapilas Cement Manufacturing Works
Manoranjan Sahoo and Ahmer Ali Khan, *Dalmia Cement (Bharat) Ltd, India*
2. Improved Low NO_x Calciner
Ram Kumar Sridharan, *FLSmidth Pvt Ltd, India* **Mads Nielsen**, *FLSmidth A/S, Denmark*
3. CPP-De-SO_x System
Sushil Kumar Paneri, Vijaykumar Agrawal, Umashankar Srinivasan and Vinod Mishra *Ambuja Cements Ltd, India*
4. NO_x Reduction through Primary & Secondary Measures at JK Lakshmi Cement Ltd, Jaykaypuram
Rajpal Singh Shekhawat, Pankaj Tiwari and Kanish Singh, *JK Lakshmi Cement Ltd, India*
5. Maximum Utilisation of Low Grade Limestone in Cement Clinker Production
Anil Singh and Tushar Ghorai. *KJS Cement (I) Ltd, India*
6. Dust Control in Construction Projects
Lavanya A R, Raksha Rajani Dsouza and Janakaraj M, *NMAM Institute of Technology, India*
Umesh R, *Rohini Project Management Consultants Pvt Ltd, India*
7. Practical approach to CSR journey in cement manufacturing
Mangleshwar Nath Verma, *Knight Synergy GT LLC Dubai, UAE*
8. Pulsed Radio Wave Technology for Mitigation of Ambient Particulate Pollution
Srikanth Sola, *Devic Earth Pvt Ltd, India*
9. Energy, Environment, Resource Conservation and Waste Utilization Practices in Ghorahi Cement, Nepal
Suraj Chauhan, Ashwani Rawal and S V P Gupta, *Ghorahi Cement, Nepal*

1615 h to 1800 h (Parallel Session)

TECHNICAL SESSION – IX B

Ashoka Convention Hall

**DISTRESS INVESTIGATION, REPAIR/ STRENGTHENING/
RETROFITTING OF CONCRETE STRUCTURES**

1. Laboratory test method for evaluating corrosion inhibiting efficiency of admix type bipolar corrosion inhibitor
Puneet Kaura, P N Ojha, Piyush Mittal and V V Arora, National Council for Cement and Building Materials, India
2. Optimization of Thermo-Mechanical Treatment for Recycling Demolished Concrete
Rohit Prajapati and Ravindra Gettu, Indian Institute of Technology Madras, India
3. Case Studies on Repair of Concrete Dam in Himalayan Region using high Performance Concrete
P N Ojha, Suresh Kumar, Digvijay Kumar and V V Arora, National Council for Cement and Building Materials, India
4. An Ideal Phosphosilicate based Binder for Concrete Repair and Rehabilitation
N Ramkumar, Navoday Sciences Pvt Ltd, India
5. Performance Evaluations of Polymer Modified Mortar and Bonding agent for Structural Repair
Puneet Kaura, Y N Dainel, Nitesh Kumar and TVG Reddy, National Council for Cement and Building Materials, India
6. Experimental Study on the Flexural Behaviour of Retrofitted RC-Beams
Aastha Singh and R R Singh, PEC University Chandigarh, India
7. Experimental Investigations on Fiber Reinforced Self-leveling Pavement Quality Concrete (PQC) for use in Partial Depth Repairs of Cement Concrete Pavements in Urban Areas
D Pavan Kumar, J Narsinga Rao, P N Ojha, B Sreenivasa Rao and Adarsh Kumar N S, National Council for Cement and Building Materials, India
8. Condition Assessment and Remedial Measures for Rehabilitation of Induced Draught Cooling Towers (IDCTs) Located in Different Climatic Regions of India- A Case Study
Rizwan Anwar, TVG Reddy and Sanjay Mundra, National Council for Cement and Building Materials, India

0900 h to 1030 h (Parallel Session)

TECHNICAL SESSION – X A

Zorawar Auditorium

ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT-II

1. Optiwave Pulse Cleaning (OWPC) Technology for Long Bag Filters
G V K Prasad, *The KCP Limited, India*
S B Aradhya and T Venkatnaresh, *Clair Engineers Pvt Ltd, India*
2. Our Journey on Water Positivity- Working Towards Future Generations and Global Happiness
R Rajamohan, K Vinayagamurthi and R A Krishnakumar,
Dalmia Cement (Bharat) Ltd, India
3. Bulk Fly Ash Utilization- R&D Initiatives at NETRA
Rajiv Satyakam, Pranay and N K Soni, *NTPC-NETRA, India*
4. Assessment of SO₂ Generation and Mitigation Measures at a Cement Plant in India - A Case Study
Anand Bohra, K P K Reddy, K R P Nath, Anupam, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials, India*
Pankaj Kejriwal, A K Sinha, S PShrimali, S K Kulshrestha, Y K Singh and B L Suthar, *Star Cement Ltd Meghalaya, India*
5. Progressing on Low Carbon Transition Opportunities
Anupam Badola and Ashwani Pahuja, *Dalmia Cement (Bharat) Ltd, India*
6. Usage of Ammonium Carbonate in Place of AQ. Ammonia in SNCR Operation
K Subbulakshmanan, Vijay Chauhan, Keshav Katare, Ramsinh Chauhan, Reshu Chauhan, Sunil Kothari and Sukuru Ramarao, *Ambuja Cements Ltd, India*
7. Deployment of Cold Fog Systems & Other Technologies for Fugitive Dust Control in Cement Plants: A Case Study.
S Chakravarti and U.S Chakravorti, *Ecodea Projects & Control Pvt Ltd Kolkata, India*
8. AFR for Portland Cement Manufacture in India : Present Status and Future Trend
Shubham Pandey, Rishabh Gautam, Subham Mishra, Pranshu Gupta and K N Bhattacharjee, *AKS University, Satna, India*

0900 h to 1030 h (Parallel Session)

TECHNICAL SESSION – X B

Ashoka Convention Hall

SPECIAL SESSION FOR STUDENTS

1. An Assessed fire Performance on BI Material Concrete Element
Aishwarya Narang, Khem Singh and Ravi Kumar, Indian Institute of Technology Roorkee, India
2. CO₂ Mitigation and Coal Saving in an Existing Fossil Fuel Power Plant using Solar Energy
Sunil and Manoj Kumar Soni, Birla Institute of Technology and Science Pilani, India
3. Effectiveness of Waterproofing Admixtures in Low Clinker Cement Mortars
Lav Singh, Ujjwal Kant and Shashank Bishnoi, Indian Institute of Technology Delhi, India
4. Force Controlled Gripper
Veni Goyal, Pulkit Mundra and Sounak Mondal, Indian Institute of Technology Roorkee, India
5. Performance of Optimized Binary and Ternary Blended Composites Integrated with Fly Ash, Ultra-Fine Fly Ash and Nano Silica
Snehal K and B B Das, National Institute of Technology Karnataka Surathkal, India
6. Corrosion Resistant Cement Mortar and Alkali Activated Concrete Using Red Mud
Lasyamayee Garanayak, Anshumali Mishra and S.K Das, Indian Institute of Technology (ISM), Dhanbad, India
7. The Influence of High Sulphate Content on Performance of Ordinary Portland Cement
Arun C Emmanuel, Riya Anilkumar, Gopala Rao Dhoopadahalli and Shashank Bishnoi, Indian Institute of Technology Delhi, India

1030 h to 1100 h

TEA/COFFEE

1100 h to 1300 h (Parallel Session)

TECHNICAL SESSION – XI A

Zorawar Auditorium

ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT-III

1. Mitigation of NO_x at UltraTech Dhar Cement: A Case Study
M. Mahendrakumar, UltraTech Cement Ltd, India
Anupkumar Das, Thyssenkrupp Industries India Pvt Ltd, India
Sebastian Frie, Thyssenkrupp Industrial Solutions AG, Germany

2. Impact of Ammonia on Environment due to its use for Secondary NO_x Control in Cement Plant
Anand Bohra, Prateek Sharma, M Selvarajan, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials, India*
3. Sustainable Productivity Improvement Through Cognitive Process Optimization & Remote Asset Management - A Systematic Approach Towards Digitalization
P Sridhar, Jeyamurugan Kandasamy and Issac Job Godse Feareth, *FLSmidth Pvt Ltd, India*
4. SO_x Emission Control through Installation of Flue Gas Desulphurization System in Captive Thermal Power Plants
Tanmay Maitra, D H Thanki and S K Gotecha, *ERCOM Engineers Pvt Ltd, India*
5. Energy and Occupant Comfort Evaluation for Building
Kajol, *World Resources Institute, India*
Ankur Mittal, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials*
Devinder Singh, *Indona Innovative Solutions, India*
6. Continuous Measurement of Particulate Emissions at Stack
Vahid Mirsadi, Rushabh Sakhpara and Umair Sayyed, *Maxtech Industries LLP, India*
7. NO_x Reduction Experiences in Kiln & CPPs of Cement Plant
Prem Talreja and Geet, *YARA Environmental Technologies, India*
8. Microstructural Development in Clinker Phases While using Waste Marble Dust Powder as a Raw Mix Component.
S K Gupta, S K Agarwal, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials, India*
Megha Bansal, *Manav Rachna University, India*
9. Best Engineering Practices: An Important Tool for Attaining High and Sustainable TSR
M V Ramachandra Rao, Anupam, Anil K Popuri, Kapil Kukreja and Rayees Ahmed *National Council for Cement and Building Materials, India*

1100 h to 1300 h (Parallel Session)

TECHNICAL SESSION – XI B

Ashoka Convention Hall

PERFORMANCE AND DURABILITY OF CONCRETE- II

1. Performance Evaluation of Ternary Blended Cements for Masonry Application
S Divya Rani, Thangadurai Raja, Sasidharan Thillai and Manu Santhanam, *Indian Institute of Technology Madras, India*
2. A Sustainable Mix Proportioning Method for Coal Bottom Ash Concrete Based on Minimum Paste Theory
S K Kirthika and S K Singh, *CSIR-Central Building Research Institute Roorkee, India*

3. Mechanical and Durability Properties of Concrete Made with ternary blends.
Puneet Kaura , V V Arora and Piyush Mittal, National Council for Cement and Building Materials, India
4. Evaluation of Durability Features of Concrete Composed with Low Carbon Cements
V H Choudary and P Anantham, My Home Industries Pvt Ltd, India
Subrata Chowdhury, Conmat Technologies, India
5. Investigations on Portland Limestone Cement Compositions and their Performance Characteristics
Pinky Pandey, D Yadav, K Sharma, S K Chaturvedi and B N Mohapatra, National Council for Cement and Building Materials, India
6. The Influence of Temperature on the Hydration and Strength Development in Slag-Fly Ash Composite Cements
Sreejith Krishnan, Meenakshi Sharma and Shashank Bishnoi, Indian Institute of Technology Delhi, India
7. Fly Ash Based Binding (ADHESIVE) Material [B(A)M] Year: 2019-20
Bhupendra Mohan Manglik and Ashish Kumar Pandey, Individual, India
8. Characteristics of Indian Bottom Ash and its Feasibility for use as Fine Aggregate in reinforced concrete
P N Ojha, Amit Trivedi, Suresh Kumar, Nikhil Kaushik, Digvijay Kumar and V V Arora, National Council for Cement and Building Materials, India

1300 h to 1400 h

LUNCH

1400 h to 1530 h (Parallel Session)

TECHNICAL SESSION – XII A

ENERGY CONSERVATION SYSTEMS-II

Zorawar Auditorium

1. Green Energy for Cement Plants
Abhay Patil, Thyssenkrupp Industries India Pvt Ltd, India
2. Latest Energy Efficient Clinker Cooling Technology and Operation - Fons Delta Cooler
Jayaram Sudhakar, Fons Technology International
3. Effect of calcination characteristics of china clays on the performance of limestone-calcined clay cements containing different grades limestone
Jai Prakash Vrati, Kamal Virendra Singh, Ashwin K Raykundaliya and B C Pandey, Ambuja Cements Ltd, India
S K Agarwal, S K Gupta, S K Chaturvedi and B N Mohapatra, National Council for Cement and Building Materials, India

4. Power Optimization & Cost Savings Analytical Tool for Continuous Improvement
Rajesh Kumar Gupta, *Individual, India*
5. Opportunities for Improving Energy Efficiency in Bag Filter Systems
Dilip Sakhpara, *Maxtech Industries LLP, India*
6. Initiatives for Energy Conservation Effective Energy Consumption at JK Cement, Mangrol, Line-2
Devendra Kumar Patel, *JK Super Cement, India*
7. Assessment of Compressor Energy Consumption in Cement Plant - A Case Study
Ankur Mittal, Saurabh Bhatnagar and Ashutosh Saxena, *National Council for Cement and Building Materials, India*
8. Utilization and Recovery Methods of Waste Heat in Cement Plant
Ankur Mittal, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials, India*
Dibakar Rakshit, *Indian Institute of Technology Delhi, India*

1400 h to 1530 h (Parallel Session)

TECHNICAL SESSION – XII B

Ashoka Convention Hall

SUSTAINABLE CONSTRUCTION PRACTICES AND OTHER BUILDING MATERIALS AND BINDERS

1. Characterization of Ladle Furnace Slag for Development of Cementitious Binder
Surya M, S K Singh, Jyoti and Akhil Rana, *CSIR-Central Building Research Institute Roorkee, India*
2. Studies on Fly Ash and Slag Based Geopolymer Concrete
Lalit Kumar, Amit Trivedi and V V Arora, *National Council for Cement and Building Materials, India*
Lopamudra Sengupta, *JSW Cements Ltd, India*
3. Achieving Concrete Sustainability Through Nanotechnology
L P Singh, U Sharma, D Ali and Srinivasarao Naik B, *CSIR- Central Building Research Institute Roorkee, India*
4. Utilisation of Brine Sludge in Manufacture of Building Bricks through Geopolymerisation Process
S D Muduli and N K Dhal, *CSIR- Institute of Minerals and Materials Technology Bhubaneswar, India*
5. Sustainable Solution for Judicious Use of Flyash from Desulfurization Process and Pondash
Alka Mishra, Raja Annamalai and Swaminathan N, *Flsmidth Pvt Ltd, India*

6. A flexible Technology to Produce Gray Calcined Clays
Luiz Felipe de Pinhol, Luis Felipe Von Rainer Fabianil and Natália Bernardi Ghisi Celeghinil, *Dynamis Engenharia e Comércio, Brasil*
7. Design and Construction of Low Traffic Volume Concrete Roads Using C & D Aggregates and Supplementary Cementitious Materials
Vaibhav Chawla, Amit Trivedi and V V Arora, *National Council for Cement and Building Materials, India*

1530 h to 1630 h

CONCLUDING SESSION

Venue - Zorawar Auditorium

Welcome Address & Highlights of 16th NCB International Seminar by
Dr B N Mohapatra, Director General - NCB

Address by **Shri Mahendra Singhi**, Chairman - NCB, President - Cement Manufacturers' Association and MD & CEO, Dalmia Cement (Bharat) Ltd.

Industry Feedback

Valedictory Address & Distribution of Best Paper Awards to delegates & students by **Shri Shashank Priya**, Additional Secretary and Financial Advisor, DPIIT, Ministry of Commerce and Industry, Govt. of India

Vote of Thanks by **Dr S K Chaturvedi**, Organising Secretary 16th NCB International Seminar

1630 h

Farewell Get-together

