



Tech Talk

Monthly Newsletter by Spectro Group

Director's Desk

Dear all, welcome to the fourth edition of Spectro's Newsletter! Our belief in walking on the path of continuous growth and development has taken us one step ahead. We are very excited to publish our monthly Newsletter entitled "Tech Talk" which will showcase informative articles. We will be sharing with you the current hot topics in the world of Science, especially related to Health and Environment along with our forthcoming activities and achievements.

I hope that this Newsletter will keep you updated of the state-of-art technologies and developments taking place in the world. It will facilitate your work and will probably build a long-lasting relationship with Spectro.

Kuldeep Dhingra
Managing Director

Introduction to Spectro

Spectro Analytical Labs Ltd. is NABL Accredited Laboratory, providing world class facilities for Testing, Training, Inspection, Auditing, Certification and Verification Services. We are 19 years old self-reliant and trusted name, providing Analytical solutions to the leading companies. We have successfully made our presence at more than 10 locations all over the country and added a benchmark in the Indian market by proving our trustworthiness and dedication.

Lightning Strikes may rise up to 50%

As the world is getting warmer and wetter, the chances of Lightning Strikes is increasing at a fast pace. The reason being, warmer air has capacity to hold more water vapor and this water vapor acts as a fuel for Lightning, Sparking and Thunderstorms. A new study revealed that the probability of Lightning Strikes would rise up to 50% till the end of the century. Investigators have used the weather data to depict how often the Lightning Strikes when the air gets warmer and the rainfall increases. As per their calculations, with increase in every degree Celsius, the Lightning Strikes will rise up to 7%.



Contd.

Spectro Certified for RLA Studies

Spectro is consistently multiplying its scope of services in varied fields. We have mounted on the next step of success by acquiring the most prominent approval from **Central Boilers Board**. We are now a certified **Remnant Life Assessment Organization** and also a well known **Material Testing Laboratory**.

We offer superlative in-service Inspection for RLA Studies to safeguard Safety and Integrity of equipments in Thermal Power Plants, Hydro Power Plants, Petroleum Refineries, etc. for maintaining the operating capacity for a longer period of time.

Contd. (Lightning Strikes may rise up to 50%)

Lightning Strikes can lead to serious damages to the physical structure, equipments and economic losses. From past few years, it has been found that Lightning had killed more people than the Tornadoes and Hurricanes and it is the major culprit of calamitous consequences.

The Corporate offices, MNCs, Industries having offices in these buildings are most vulnerable to the Lightning consequences.

To protect these structures from the damaging effects of Lightning, devices called **Lightning Arresters** are used on **Telecommunication** and **Electrical Power Systems**. Installing Lightning Arresters at high rise buildings provide safety against Lightning and Thunderstorms.



Safety Compliance Audit for Lightning Arresters plays a vital role to study the maintenance aspects of these systems and suggest appropriate corrective measures

Spectro is India's foremost Analytical Laboratory which is serving various sectors from past 19 years. We specialize in conducting Audit in order to determine the protection levels of the building against Lightning.

Acknowledgement

ÿ *The Weather Network*

ÿ *Science Daily*

ÿ *SavingAdvice.com*

RLA Studies of Boilers

A Boiler is a steam generator which is an elementary system in almost every power plant. All through their service life, the components of a boiler especially the pressure components are steadily subjected to high pressure, temperature and cyclic stresses. India is broadly dependent upon thermal routes for generating electricity. Safe working of a boiler is of utmost importance because if a component fails while running, it leads to power generation losses and moreover it poses risk to the safety of the surroundings and the work force over there. The fitness of a boiler is supervised routinely by the **Government Statutory Body**.

To predict the time period during which it shall retain the fitness-for-service characteristics, **Residual Life Assessment (RLA) Study** is carried out for that component. RLA studies reveal the real picture of the condition of the entire Power Station systems, equipments and other machines which are subjected to creep and/or fatigue. Thus RLA Studies have become an inseparable part as they help in prolonging the life of aged power plants.

According to **Indian Boiler Regulation 1950 u/s 391A**, after 1,00,000 hours of operation, these components needs to be examined by **Non Destructive Testing (NDT)** to check the remaining life of the components.

Estimating the condition and remaining life of the components working under extreme conditions is important to enhance the maintenance schedules to make better decisions in order to **Run, Repair and Replace** and also to shun the unplanned disruptions.



Spectro is accredited by Central Boilers Board as a Remnant Life Assessment Organization and also a Well Known Material Testing Laboratory. We provide In-Service Inspection for RLA Studies for ensuring Safety & Integrity of the equipments & Components of Thermal Power Plants, Petroleum Refineries, Hydro Power Plants, etc. to maintain the operating capacity for a longer period of time.

Acknowledgement

- Ÿ Department of Industrial Policy & Promotion
- Ÿ The Industrial Wiki
- Ÿ CPRI

Technical Showcase: GC-MS/MS

Gas Chromatography coupled with Tandem Mass Spectrometry (GC-MS/MS) by using triple quadrupole (QqQ) analyzer has become one of the most powerful techniques providing method to detect target compounds in complex matrices at trace levels.

This technique has enhanced sensitivity and selectivity for an exhaustive range of applications, whether it is related to Food Safety or Environment Monitoring, Clinical Research or Forensics, GC-MS/MS is the ultimate platform for almost all the challenging applications.



Spectro owns this sophisticated instrument for fulfilling the requirements of their eminent customers. We have GC-MS/MS Triple Quad Make: Agilent Technologies Model: GC 7890A and MS 7000.

Major Activities

Testing

Calibration

Training

Inspection

Clean Room Validation

R&D

- Ü Metals & Alloys
- Ü Food and Agro Products
- Ü Electrical & Electronics
- Ü Rubber & Polymers
- Ü Coal & Petroleum
- Ü Building Materials
- Ü Paper, Leather & Textiles
- Ü Hazardous Substances
- Ü Water & Environment
- Ü Minerals & Chemicals

Spectro Lab Equipments (P) Ltd. is promoted by a team of committed professionals who have years of experience and have not lost any opportunity to prove their ingeniousness. SLE is the largest manufacturer on Environment and Coal laboratory equipments.

Activities

- Ü Chemical and Analytical Equipments
- Ü Coal Equipments
- Ü NDT Equipments
- Ü Mechanical Test Equipments
- Ü Environmental Equipments
- Ü Gold Testing Equipments
- Ü Polymer and Rubber Equipments

Spectro Weld Institutes (P) Ltd. provides exemplary short-term courses and full time courses on specialized topics. The welder gets certification by AWS (American Welding Society). We are also creating a pool bank of trained and certified welders for ready deployment for projects.

Joint Ventures Labs:

- Ü Bhubaneshwar
- Ü Patna
- Ü Mumbai
- Ü Kolkata
- Ü Kanpur
- Ü Jaipur
- Ü Patiala
- Ü Jammu



We will be pleased to receive your suggestions and feedback on our email ID: newsletter@spectrogroup.com

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