

Subijoy Dutta, P.E.

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PROFESSIONAL SUMMARY

Mr. Subijoy Dutta is a registered professional engineer (P.E.) in Maryland, USA. He has authored two books :

- [*Environmental Treatment Technologies for Municipal, Industrial and Medical Wastes*](#) Remedial Scope and Efficacy, 2nd edition. Taylor & Francis (CRC Press), published September 30, 2021.
- *Sustainable Mining Practices – A Global Perspective*, published by Balkema Publishers, July 2005.

He is the sole proprietor/Director of S&M Engineering, LLC (www.snmengineering.com) initially formed in 1984.

Mr. Dutta worked on various environmental projects for 20+ years involving waste management, assessments, and remediation of hazardous, non-hazardous, medical, and municipal wastes. With expertise spanning the oil and gas operations with emphasis on protection of water and air resources during drilling and production.

SKILLS

- Environmental site cleanup -
 - ◆ remediation technologies, emission control, monitoring water and air quality, EIA (Environmental Impact Assessment), Remedy selection, and implementation, groundwater cleanup
- Remote sensing technologies –
 - ◆ hyperspectral imagery, geospatial data analysis, watershed assessment and analysis
- Protection and restoration of rivers and lakes –
 - ◆ Identifying sources of pollution, erosion, flood potential, water and wastewater treatment system design, and groundwater recharge system design and installation.
- Leadership, effective communication, engineering, troubleshooting, problem solving with innovative approach
- Language skills –
 - ◆ IT – Javascript, php, html, ArcGIS, MS Office suite, Adobe pro, Google Developer
 - ◆ S/Read/Write -English, Bengali, Hindi, Assamese, Khasi (India), Nepalese, and Español,

EXPERIENCE

Managing Director, S&M Engineering, LLC

- Designed an innovative sidetracking well intercepting plan to successfully kill the Deepwater Horizon (Macondo well) oil spill in August, 2010. This well blowout with 11 fatalities continued to spill from April 20, until this innovative design and plan was used to kill the well.
- Conducted GIS/Geospatial data analysis for the Loudoun Environmental Indicator Project (LEIP).



- Used 15 Environmental Indicators including remote sensing to evaluate the impacts of fast growth and deforestation. Coordinated with NGOs and community groups.
- Design and implementation of low-cost wastewater treatment systems-
 - Deep pond waste water treatment system, Hyderabad, India. – Used an innovative, energy efficient, low-maintenance, treatment system at 25% cost of a standard treatment plant.
 - Wetland-based treatment system design to remove contaminants from drains discharging to rivers and streams. Designed a wetland-based system in Agra, India to remove over 80% pollutants from the Kakhretta drain discharging into the Yamuna river.
- Provide training seminars (for CEU/PDH credits) in environmental treatment technologies for waste management at various locations in US, India and virtually.
- Evaluate groundwater quality for various watershed basins to determine impacts on usable water. Resolved a major groundwater pollution problem affecting residents in Ponca city, Oklahoma by identifying the source and providing a remediation approach.
- Develop municipal solid waste management (MSW) plans emphasizing recycling, reuse, and composting of yard waste. Assisted Balikpapan city, Indonesia, and Gangtok, Sikkim, India with their MSW management.
- Worked closely with an international team in India and the local authorities to develop a wetland-based treatment system for removing pollutants from drains discharging into the Yamuna river.
- Designed and supervised installation of a modified landfill cover system for a waste site in Oklahoma. Saved 20% cost by identifying an innovative approach for the cover.
- Designed and Developed groundwater treatment and monitoring systems for a superfund site and three other waste sites within two years. The superfund site involved -
 - A groundwater cleanup system design for the B3001 superfund site to remove contaminants involving high levels of TCE and Cr⁺⁶. Use of horizontal wells to extract groundwater.
 - Saved more than \$800,000 in cleanup cost by using innovative treatment system for the cleanup. Used latest technologies by reaching out to industries and visiting sites for validating the workability of the technologies within three months.
 - Planning and exhumation of a buried Radioactive waste. Completed remediation of two radioactive waste disposal sites within a period of 4 months.
- Designed and supervised installation of a modified landfill cover system for a waste site.
 - Saved over 20% cost by identifying a highly impermeable clay soil within the base property, avoiding purchase and transportation of low permeability clay for the 1.5-acre landfill cap.
- Worked as a project manager on a number of sites in Oklahoma. Supervised three engineers and one environmental analyst (hydrogeologist).
- Developed plans for cleaning up oil-contaminated sites.

Lead Petroleum Engineer, BLM /DOI (Jun 2012 to Jun 2020):

- Project manager/primary author of a number of oil and gas regulations and guidance by BLM/DOI
 - Led a team of engineers, scientists, and economists to develop and publish the BLM 2015 Hydraulic Fracturing Rule focusing on protection of water resources and other impacts. Despite the stay order on the rule by court, many states (CO, CA, IL, LA and others) adopted the major components of the rule.

- Authored the BLM oil and gas operations safety bulletin in 2014 to address worker safety. This helped field operation with a 100% reduction in fatalities from six in 2014 to zero by 2019.
- Managed exploration, development and production of the nation's onshore resources.
 - Conducted monthly national operations calls with over 80 people including engineers and other
- Respond to Congressional enquiries on oil and gas operations.
 - Frequently responded to enquiries involving issues related to – hydraulic fracturing, operation on tribal lands, economic development, energy independence, and environmental protection.
- Authored BLM's instruction memorandum (IM) on oil and gas bond requirements, and major undesirable events (MUE) involving spills/incidents IM in 2018-2019.
 - The bond IM helped 39 field offices with automated sheet and provided accuracy and clarity.
 - New requirements in the MUE IM called for Lat/Lon for the incidents and pictures. It improved the timely management of spills and incidents.
- Planning and exhumation of a buried Radioactive waste. Completed remediation of two Radioactive waste disposal sites within a period of 4 months.
- Designed and supervised installation of a modified landfill cover system for a waste site.
 - Saved over 20% cost by identifying a highly impermeable clay soil within the base property, avoiding purchase and transportation of low permeability clay for the 1.5-acre landfill cap.

Senior Environmental Engineer, US EPA (Jan 1992 to May 2012):

- Led a team of 12 Scientists and Engineers from the EPA, Industries, and the States to develop a National guidance on best management practices (BMP) for soils treatment technologies. The focus of this guidance was on controlling contaminant migrations during waste remediation. The BMPs developed were found to be effective and viable in 92% of the sites when used nationally.
- Assisted in the development of a database for fate and ecological studies involving pesticide registration.
 - Developed a document search engine and research tool for selectively pick study reports and files for pesticide study reviews by the scientists. Used Javascripts, Ajax, and html to develop the desktop 'EFED Gateway'. This tool is still actively used by EPA scientists.
- Provided EPA training on Hazardous and medical waste management in India.
- Conducted GIS/Geospatial data analysis for the Loudoun Environmental Indicator Project (LEIP).
 - Used 15 Environmental Indicators including remote sensing to evaluate the impacts of fast growth and deforestation. Coordinated with NGOs and community groups.
- Provided seminars on Medical waste management in Jaipur, India representing US EPA.

EDUCATION

M.S. Petroleum and Geological Engineering; University of Oklahoma, Norman, OK

M.S. Mech. Engineering; University of Oklahoma, Norman, OK

B.S., Mechanical Engineering; Guwahati University, Jhalukbari, India

AWARDS/RECOGNITIONS/VOLUNTEER WORK

Major Awards:

- Special Achievement Award for Major Rule Development pertaining to Hydraulic Fracturing Final rule in 2015 and Rescission Rule in 2018
- Unsung Hero Award by EPA Administrator (Carol Browner)- 1997 for volunteer work involving Yamuna River restoration in Delhi-Agra area.
- National Award for Individual Excellence in Environmental Restoration from U.S. Air Force in Washington, DC (1992) involving cleanup of radioactive waste sites, RCRA sites, and initiating groundwater cleanup of a superfund site at Tinker AFB, Oklahoma City.

VOLUNTEER WORK:

Founding Director, Rivers of the World (ROW) Foundation (Jul 2007 to Present):

(protection and cleanup efforts for rivers and streams for the (501 (c) 3) charitable organization)

Providing voluntary help in cleaning up streams and rivers since January 1993.

- Manage various teams and coordinate with more than 100 volunteers all over the world to carry out local water/stream protection and awareness projects.
- Work with team members to arrange river cleanup in many countries (USA - California, Illinois, Maryland, Oklahoma, and Tennessee; India – Yamuna River, Gokul, Agra area, Ganges River – Rishikesh, Kolkata area, Barak River – Silchar, and number of others, China – Yangtze river, Wuhan area, Indonesia – Balikpapan, Nepal, and Philippines – Cebu, Iloilo, and Marikina River ,
- Develop and update the Rivers of the World website (<https://rowfoundation.org>) using Javascripts, php, and html languages.