



Curriculum Vitae for Mohamed H. Nur

Education:

M.S., Civil Engineering, Virginia Polytechnic Institute and State University, 1992
 B.S., Civil Engineering (Honors), Lafayette College, 1990

Professional Work Experience:

Management Experience

Mr. Nur has more than 20 years of experience in the management of environmental projects and engineering applications, including numerous projects that require extensive experience in project and staff management and those that span several disciplines and subcontracting requirements. His contract management roles have included the following:

- Regional Oversight Contract (ROC) Region 2
- ROC Region 3
- ROC Region 7
- ROC Region 9
- U.S. Coast Guard, National Pollution Fund Center
- Virginia DEQ Bomb and Explosives Contract
- Office of Regulatory Enforcement Contract

Mr. Nur is the current TechLaw ROC Program Manager and Region 3 Profit Center Manager. In addition to acting as a source of guidance and knowledge for TechLaw's ROCs in Regions 2, 3, 4, 5, 6, and 9, he is responsible for maintaining the success of the Region that is home to TechLaw's headquarters. He works to ensure the timely and accurate submission of deliverables; successfully manages relationships with our clients, including EPA, state and local agencies; and communicates with client and TechLaw personnel on a number of issues, including those of a contractual, programmatic, and administrative nature. Mr. Nur has also served as TechLaw ROC Program Director and Director of Engineering.

Remediation Management and Oversight

Serving as the Program Manager for multi-million dollar Regional Oversight and Superfund Technical Assessment and Response Team (START) Contracts, Mr. Nur has extensive capabilities related to remediation management and oversight. He is currently the Program Manager for ROC Region 3 and ROC Region 2, and previously in Regions 7 and 9. Program-level management includes oversight of the technical and financial reports for these contracts, and direct contact with EPA contracting officers and regional project officers on program management. In addition, Mr. Nur serves as a technical staff member, supporting various engineering activities including

remedial design reviews and oversight of remedial actions. He has also served as the project manager for five Task Orders under the Region 3 ROC. Other highlights of his experience include the following:

- Managed several corrective action contracts in EPA Region 6, including a site that has undergone litigation and is now in the final phase of remediating contaminated groundwater at the site by implementing a multi-phase vapor extraction system. Provided support in reviewing technical reports and managing the conduct of air, groundwater, and soil sampling at the site.
- Managed three corrective action projects for EPA Region 1. Projects had multiple components—RFI, CMS, IM, and risk assessment—that required the involvement of a multi-disciplinary team and various subcontractors to implement. Managed TechLaw and subcontractor engineers, risk assessors, hydrogeologists, and other support staff for these assignments. Also provided field oversight support to EPA during remedial activities.
- Managed RCRA corrective action oversight/technical document reviews for a major manufacturing facility. Under a voluntary corrective action agreement, the facility submitted an RFI report, a Human Health and Ecological Risk Assessment report, and a CMS report. Documents were reviewed for technical adequacy and consistency with EPA guidance and engineering practice.
- For a major commercial client, researched and assessed the possibility of using continuous in-line monitoring system to detect oil leaks from heat exchangers into river water. Recommended technologically viable options best suited for the operational situations at the facility.
- Performed a technical review of a proposal submitted to EPA Region 1 by a major manufacturing facility for the preliminary investigation of corrective measures (PICM) for a major river and a lake. The review consisted of general and specific comments on the technical adequacy and accuracy of the facility's proposed technology (in-situ and ex-situ) screening for remediation. Deficiency comments provided to EPA were based on sound scientific and engineering practice as well as the requirements set forth in the HSWA permit issued to the facility by EPA.
- Conducted surface water sampling at a chemical manufacturing facility as a compliance monitoring oversight for EPA Region 5. Sampling activities



included collecting samples from the epilimnion and hypolimnion strata of a reservoir after the determination of the existence of a thermocline by measurements of dissolved oxygen and temperature at a vertical cross section. Work also included writing a site-specific health and safety plan. The purpose of sampling activities was to determine if state and EPA water quality standards for human health criteria regarding the aquatic life habitat use designation were being observed in the facility's reservoir.

- Prepared or evaluated more than two dozen feasibility Studies (FS) and engineering evaluation/cost analysis (EC/CA).
- Evaluated preliminary, pre-final and final design reports for a landfill cover system of a major manufacturing facility under the EPA Corrective Measures Implementation Program. Evaluation included review and verification of engineering design analysis, engineering cost estimate, and HELP model simulation for the selection of best alternative cover system. Reviewed technical specifications and drawings for conformity with the design criteria and the long-term performance standard and adequacy for construction bid and proposal. Comments and guidance were provided to the design engineers via teleconference sessions and meetings throughout the different phases of the reports.
- Performed an extensive evaluation of remedial technologies proposed by a major manufacturing facility for the remediation of PCB-contaminated river and lake sediments, under EPA corrective action program. Technologies evaluated included in-situ and ex-situ technologies commonly used for PCB-contaminated sediments, and innovative technologies that have not been proven in the field. The evaluation was performed with an in-depth assessment of each technology considering factors such as constructability, acceptability, cost-effectiveness, performance, and the impact of the technology on the flora and fauna. Performed comments and follow-up evaluations until project implementation. In addition, provided meeting support to EPA on technology demonstrations such as dredging technologies.
- Conducted technical review of three conceptual design reports for the groundwater pump-and-treat system of three major manufacturing facilities to remediate contaminated groundwater and prevent off-site migration of the contamination plume. Evaluated the conceptual design for technical adequacy of the factors used for developing the design and included analysis of hydrogeology, treatability, performance, cost-effectiveness, and all applicable engineering and cost calculations.
- Provided extensive oversight (Sept. 1994 to Sept. 1995) for RFI/IM activities at a major chemical manufacturing facility. Oversight activities included well plugging and abandonment, new groundwater monitoring well installation, soil/sediment/surface water/groundwater sampling, groundwater level measurements, storm sewer cleanup and reconstruction, and various environmental remedial activities. Served as the site health and safety officer and team leader.
- In support of EPA's RFI Standardization Group (RSG), participated in effort to enhance the RFI Standardization outline prepared by the RSG by adding appropriate reference(s) from the Corrective Action Reference List. The ultimate goal of the project was to produce a comprehensive, thorough, and concise outline/guidance document that explains the elements required for an RFI work plan, and those reference documents available to further assist a facility in preparing a RFI work plan.
- Performed stabilization inspections at two facilities located in Maryland and Virginia that were listed on the National Corrective Action Prioritization System (NCAPS). Work included review and analysis of facility files and on-site inspections to determine if previously identified problems had changed, been addressed through another state or federal program, or if there had been any new or previously unidentified releases to the environment. Completed and submitted to EPA a summary report and NCAPS scoring for each facility for revised NCAPS listing and/or corrective action process determinations. Served as the site health and safety officer and technical lead.
- In preparation for expert testimony in a litigation support case, evaluated interim remedial measures (IRMs) conducted by a client at a mining site. Evaluated the design, construction, and cost of four levees and a wastewater treatment system to determine that the IRMs were conducted in accordance with approved plans and the NCP and that the costs were not arbitrary and capricious.
- Conducted technical reviews of more than a dozen RFI reports for completeness, technical adequacy, and conformance with approved RFI work plans and/or EPA guidance. Work included analysis of information provided in the RFI report, particularly, Solid Waste Management Unit (SWMU) characterization and site environmental setting to determine if the horizontal and vertical extent of contamination at each SWMU has been defined. Upon completion of review, prepared and submitted to EPA deficiency comments for each report.

- Managed and conducted a feasibility study of wind/solar powered pumps and generators as a source of energy for small scale farm communities; installed pumps/generators at various rural locations in Somalia and conducted a pilot study to determine cost efficiency.
- Performed selection of surface and groundwater models and conducted a preliminary model parameters evaluation for a pilot study of the aggregate impact of chemical releases from seven refineries along the Delaware River. Also performed computer modeling using the Graphical Exposure Modeling Systems (GEMS) to determine the fate of chemicals released from the refineries. The modeling effort was one aspect of an effort to collect information for the Delaware River Initiative negotiation support.
- For EPA Region 1, conducted groundwater sampling oversight at a manufacturing facility, including split sampling. In addition, analyzed surface water sampling data collected up and downstream of the facility's NPDES outfall to determine the impact of the discharge from the outfall on the surface water.

Environmental Management Services

Mr. Nur has provided comprehensive support for EPA, other federal and state agencies, and private clients in the area of environmental compliance. Mr. Nur's extensive experience in various RCRA and CERCLA program areas includes corrective action, permitting and remedial oversight. His field of expertise includes conducting RFAs and RFIs; CMS preparation and reviews; Part B permit application preparation and reviews; RFI/IM oversight; EE/CA; RD/RA investigation and designs under IRPs; landfill cover engineering design reviews; and soil, surface and groundwater sampling and modeling. He has performed numerous technical reviews for hazardous waste combustion facilities and other hazardous waste sites such as landfills. His support has also included expert witness support in litigation cases, as well as special project support related to the EPA's mission of ensuring the safety of human health and the environment, particularly regarding environmental compliance issues. Highlights of this experience include the following:

- Conducted a quality control review of comments (engineering and hydrogeology) on six part B permit applications. Also, reviewed these applications for completeness and technical adequacy. Specifically, reviewed the engineering design, environmental standard, and hydrogeology sections of the applications. Reviewed the facility's response to the initial Notice of Deficiency (NOD) comments, revised the checklist based on the response and prepared a second-round of NOD comments.

- Served as a technical lead on the assessment of monitoring dredging effects on water quality of the Grand Calumet River to determine compliance with state Section 401 Waste Quality Certification and recommend corrective actions for non-compliance. Also, evaluated the assessment and management of contaminated sediments to explore fate, effects and risks of sediment-bound contaminants.
- Conducted technical reviews of more than a dozen RFI work plans for completeness and technical adequacy in addressing the requirements of RCRA/HSWA corrective action permits issued to various facilities by EPA. The information submitted by the facilities was also evaluated with respect to sound scientific and engineering practice. Upon completion of the review, deficiency comments for each facility were prepared and submitted to EPA.
- Reviewed a dozen Trial Burn Plans, Trial Burn Reports, and the balance of RCRA hazardous waste permit applications in support of EPA issuance/denial of RCRA permits for a number of hazardous waste combustion (HWC) facilities in Regions 4 and 5.
- Managed a project to provide EPA with support to update the RCRA Permit Policy Compendium on a semi-annual basis. The annually updated Compendium is a reference document for regional and state permit writers who need quick access to HQ RCRA permitting policies and procedures. Served as a technical staff member on the fourth, fifth, and sixth updates, and as manager on the seventh and eighth updates.
- Wrote two Part B permits for a boiler and industrial furnace unit (BIF) and a treatment, storage and disposal facility (TSDF).
- Under EPA's State Assistance Program, provided technical assistance to the Texas Natural Resource Conservation Commission (TNRCC) Multimedia Planning and Permitting Division in reviewing hazardous waste permit applications and related documents. Conducted technical and completeness reviews of six Part B Permit Applications.
- Conducted technical review of a Part B Permit Application for the New Mexico Environment Department (NMED). For the Triassic Park landfill facility, performed a review of all engineering design submittal and specification for adequacy and completeness. A deliverable consisting of comments and checklists was produced to assist NMED with their assessment whether the submittal satisfies the requirements for engineering/design criteria to all applicable RCRA regulations under 20 NMED Chapter 4 and 40 CFR 264 and 270.

- Conducted a technical review of the Waste Isolation Pilot Plant (WIPP) Safety Analysis Report (SAR) for the U.S. Department of Energy (DOE). Conducted the review to determine the conformance with the no-migration requirements 40 CFR 268.6 and the requirements of DOE Order 5480.23, Nuclear Safety Analysis Reports. Submitted a report that presented review comments on the SAR to the client.
- Conducted a quality control review of comments (engineering and hydrogeology) on six Part B Permit Applications. Also reviewed for completeness and technical adequacy. Specifically, reviewed the engineering design, the environmental standard and hydrogeology sections of the applications. Reviewed the facility's response to the initial Notice of Deficiency (NOD) comments, revised the checklist based upon the response and prepared a second round of NOD comments.
- Managed a subcontract under the Office of Regulatory Enforcement (ORE) for which TechLaw provides assistance to EPA on information collection, expert assistance in analysis, inspections, and sampling at 45 mineral processing facilities. Assisting EPA in analyzing processing and production methods, waste discharges, regulatory status of the facilities with respect to the Bevill amendment rulemakings, and other items as identified by the EPA WAM. Also provided meeting support to EPA and conducted technical review of a Phase I Assessment Report for one of the mineral processing facilities.
- As field team leader, conducted a depositional and sediment transport study at a river in New England. Task included a field investigation of actual sediment depositional patterns in the river and sediment characterization. Information gathered included water depth, sediment depth, depositional types, size of depositional areas, sediment characteristics, water flow characteristics, erosional areas, GPS data, aerial photographs and representative PCB and TOC data to establish correlations between the type of depositional environments and PCB concentrations. Also included screening of fate and transport models and selecting a model framework for the second phase of the study. Managed subcontractors that conducted sediment coring in the field. A final report with all results and conclusions was submitted to the client. Also provided public meeting support to EPA.
- For a private client, conducted a Phase II Environmental Assessment at a commercial property. The assessment included soil sampling and analysis. Based on data generated during the assessment, remediation alternatives were recommended to the client including cost estimates for disposal of contaminated soil.
- As technical director of a national household energy program in Somalia, managed the design of fuel-efficient wood and charcoal cookstoves; consulted with stove manufacturers on design specifications and quality control; submitted monthly technical progress reports; planned and organized quarterly evaluations and planning sessions; established and managed a technical information resource library; and trained staff members on the use of word processing and spread sheet programs. Supervised technical activities in five regional offices with more than 40 staff members.
- Managed a project to support the EPA Office of Radiation and Indoor Air (ORIA) with the peer review of a draft report entitled, "Radiological Surface Contamination Technology Screening Report," which allows easy access to critical information on applied technologies available for the radiological surface decontamination of buildings and debris. The peer review was conducted in two stages that involved EPA and non-EPA personnel. Also provided subcontractor management.
- Participated in Corrective Action Stabilization Initiative effort for EPA Region 3. The project involved determining off-site impact from air releases generated by heavily contaminated subsurface soil. Work included developing a mathematical model for calculating estimated vapor emission rates from bulk soil concentrations and using the result as inputs to the ISCST air dispersion model. This model was used to estimate average annual impacts for boundary line receptors, receptors located at internally-generated grid points, and discrete user-defined receptors. Recommended suggestions for stabilization and future remedial activities. This modeling evaluation provided negotiation support and was used during discussions between EPA and the facility.
- Prepared a handbook, papers, and fact sheets that describe the U.S. legislative and programmatic approach to the United Nations Environmental Program (UNEP) priority contaminants of the marine environment from land-based sources. The project was carried out in preparation for UNEP's 1995 Strategy Session. Work included analysis of the Clean Water Act and other U.S. legislation to identify elements that address point and non-point sources of pollution to the marine environment from land-based activities; and identification and analysis of management techniques, programs, and technologies for reducing these pollutants.

- Completed stabilization checklist for ten facilities located in Connecticut, Massachusetts, and Rhode Island. Work included reviewing facility files and completing a checklist based on the information obtained. Evaluated the effectiveness of ongoing or completed corrective measures in protecting the human health and the environment. In addition, recommended stabilization measures suitable for the conditions at each facility, when appropriate. A checklist that included a summary on facility operations and recommendations was submitted to EPA for each facility.
- Performed an analysis of a proposed OSHA comprehensive occupational health and safety rule. Specifically, developed a spreadsheet model for the analyses of current industry profile and determined the number of establishments currently noncompliant with the provisions of the proposed rule, based on survey and published data. Results of the study and the data were used by OSHA to perform cost estimates for implementing the proposed rule. In addition, developed the analysis model for the cost estimates (linking the profile data) under a separate task performed at a later date.
- Conducted database reconciliation in support of EPA's technical assistance to NMED. Work involved interaction with NMED's Corrective Action Fund (CAF) program staff and review of facility files to reconcile financial information contained in NMED's underground storage tank (UST) reimbursement database for owner/operator-led corrective action sites. Served as team leader during the absence of the project manager.
- Performed senior-level QA/QC checks on information entered by A.T. Kearney staff into the Biennial Report System (BRS) database for the states of Maryland and Pennsylvania.
- As a member of the Groundwater Protection Technical Review Team, provided technical assistance to EPA's Texas STEAM Team in support of the TNRCC Municipal Solid Waste Division. Reviewed and provided comments on the QA/QC Sections of Soil and Liner Evaluation Reports (SLERs) and Flexible Membrane Liner Evaluation Reports (FMLERs) for municipal solid waste landfill liners before cells were approved for the receipt of waste.
- Provided support to EPA and prepared summary reports for the determination of status for two new Corrective Action Event Codes in the RCRIS system for 11 high priority TSDFs in Connecticut. The A.T. Kearney Team provided the support for more than 40 facilities located in Connecticut, Massachusetts, and Rhode Island. Work included review and analysis of facility information (operations, environmental setting, release history, groundwater monitoring data, interim measures) to determine status of the two new codes (i.e., Human Exposures Controlled Determination and Groundwater Releases Controlled Determination) and suggest a course of action for a *yes* determination, if not currently achieved.
- Collected and analyzed requisite data in preparation for a site-specific human health risk assessment of a cement manufacturing facility boilers and industrial furnaces (BIF) permit. The data analysis included preliminary dispersion modeling.
- Reviewed EPA and state files for evaluation of the status of RCRA facilities subject to post-closure activities. Served as team leader for the reviews conducted in Alabama. Reviewed data collected from the states of Alabama, Tennessee, and Kentucky and prepared a summary report for more than 80 facilities on hydrogeology, closure/post-closure status, groundwater monitoring system, and groundwater contamination. Identified facilities conducting pump and treat and prepared a summary report for implementation analysis.
- Verified, corrected, and completed database information of RCRA facilities for the post-conversion from the Hazardous Waste Data Management System (HWDMS) to the Resource Conservation Recovery Information System (RCRIS). Data examined included permitting, closure, and corrective action information for Region 4. On-site visits were made to the EPA Region 4 office and to state offices in Florida and Georgia.
- Conducted a study on language used in state legislation and RCRA permits related to waste minimization. Research involved telephone contacts with all state waste minimization/pollution prevention offices and regional offices. Model permits and biennial reports were analyzed to catalog and categorize language. Submitted a report summarizing the study to EPA.
- As a researcher/analyst for a large TSDF, reviewed documents from generators and transporters of HAZMAT material to determine PRPs at a Superfund site. Responsibilities included litigation support research, data extraction, computation, and managing the data by using a FoxPro database management system.
- As a graduate research assistant, conducted a sensitivity and reliability analysis on a groundwater pollution model (finite element), using data collected from observation wells and sediment/water interface around the Chesapeake Bay. Conducted application

research on USGS's TR55 hydrologic model to investigate possible inclusion of channel storage in the modeling process.

- As a member of an expert panel on energy use, conducted a feasibility study for ISERST/VITA on introducing new techniques and technologies in household energy use practice. The study included surveys and interviews with households, energy suppliers, equipment manufacturers, and government officials in various locations throughout the Republic of Djibouti. A report containing recommendations based on the study was submitted to ISERST, a Djiboutian government agency.
- Compiled data on energy use practices and consumption in Somalia and presented a report at a Biomass Energy Users Conference in Bangkok, Thailand. Participated in a week-long conference as one of only two representatives from Somalia. Also submitted several project proposals for solar, wind, and biogas technologies as a viable alternative energy sources for Somalia's domestic energy need.
- As an undergraduate research assistant and Dana Scholar, conducted hydrologic modeling on a sub-basin of the Lehigh River to determine the effects of urbanization on the ecosystem and water quality of the river. Sampled the soil and surface water of the sub-basin and performed sample analysis to determine the level of hazardous constituents present. Created a base map on AutoCAD for the watershed management and identification of wetlands. In addition, developed a computer model that interfaces AutoCAD, a hydraulic model, and a database management system. This model can be used for a city water distribution system design and management. This work appeared in engineering publications.
- As an assistant to an Academic Computing Center, trained students on the use of computers and applications programs. Developed guidance and on-screen menu system for application programs. Taught FORTRAN programming to freshman engineering students.

Emergency Response, Planning & Homeland Security

As the Program Manager of TechLaw's Superfund Technical Assessment and Response Team (START) contract, Mr. Nur is involved in all phases of the START activities. He is responsible for the emergency response readiness of 12 core emergency response team (CART) members who respond to all facets of the START duties. These include OPA responders, preparedness coordinators, environmental scientists, chemists, and engineers. Response activities support EPA's obligations to CERCLA, OPA, Stafford Act, Homeland Security Act of

2002, as well as any future laws or regulations promulgated pertaining to EPA's obligations. Mr. Nur ensures that TechLaw maintain a 24-hr, seven days a day, year round response capability to respond on a regional, backup regional, cross regional, national, and international response as needed. As a CERT member engineer he has personally responded to emergencies, conducted site assessments and provided removal oversight. Specific work includes the following:

- As a member of CERT, responded to a mercury spill at an elementary school in West Virginia. Activities included coordinating with local authorities to quarantine all contaminated materials, conducting instant air monitoring using Lumex MVA, setting up perimeter air monitoring stations around the school using SKC and Gillian air sampling pumps. In addition, monitored homes of 5 students that were directly exposed to mercury. A cleanup of the spilled mercury was achieved in less than two days. However, the monitoring continued for several weeks.
- Conducted a site assessment at an abandoned former furniture facility because it reported that there may be hazardous wastes that posed imminent danger to the community. The assessment identified numerous drums with hazardous chemicals which were removed and properly disposed.
- Performed a site assessment at an abandoned former slaughter house. Numerous drums and a tank containing sodium hypochlorite were reported as posing danger to the community. Identification of the drum contents was done under Level B personal protective equipment, in the middle of the summer. The site assessment was followed by a successful removal of all hazardous materials from the site.
- Conducted an oversight on emergency removal at an abandoned former creosote plant in West Virginia. The removal action included sampling and analysis, and removal of soil exceeding the remedial goals.
- Also conducted a site assessment at an abandoned former skins and hides manufacturing facility in West Virginia. Activities included multimedia sampling and identification of materials and areas believed to be posing imminent danger to the community.

Sustainable Development

Mr. Nur has over 20 years of experience in the management of environmental projects and engineering applications, which span several discipline requirements. His comprehensive background includes regulatory, waste management, energy and water conservation, and sustainability. Of note, work in support of EPA on various Resource Conservation and Recovery Act (RCRA) and Compensation and Liability Act (CERCLA) projects

includes corrective action, permitting and remedial oversight. Through this work, he has conducted various facility inspections and assessments to determine regulatory compliance, good engineering practice, and extent and degree of contamination. Sites include private industrial and manufacturing sites as well as federal facilities, including oversight of Remedial Investigation/Feasibility Studies, Corrective Measure Studies preparation/review, Engineering Evaluation/Cost Analysis, Remedial Design/Remedial Assessment investigation and designs, landfill cover engineering design reviews, and soil/surface/groundwater sampling and modeling. In addition, Mr. Nur has consulted for commercial clients and other federal and state agencies. Drawing from his extensive technical expertise, he poses viable solutions to environmental problems. Examples of this work include assessing nonpoint pollution sources to the marine environment and compiling best management practices/technologies and fact sheets on programs addressing marine pollution. He prepared a handbook used by the U.S. delegation at the UN Conference on Environment and Development. For a major pharmaceutical company, he completed an inventory of Part AA/BB emission sources for a permit application and developed a graphical and numbering system for systematically tracking the components for future compliance monitoring. Mr. Nur has also conducted Phase I and II Environmental Assessments at commercial sites for brownfields development. Mr. Nur completed a four-month certificate program on renewable energy technologies at the University of Florida in Gainesville. As a part of the completion of the program Mr. Nur designed solar panel for residential lighting from materials that could be easily obtained in sub-Saharan Africa and conducted a month long testing on performance. Results were presented to program participants and professors. Projects that he has been involved in include the following:

- Currently managing a regional multi-site Brownfields Technical Support task order under the EPA Superfund Technical Assessment and Response Team (START). This involves technical and management support to EPA on brownfields development at various brownfield facilities in West Virginia, Virginia, Pennsylvania, and Delaware. During the last two and a half years, has provided technical support including conducting Phase I and Phase II environmental assessments, providing oversight of stakeholder activities at over 100 facilities.
- For a commercial client in Washington, D.C., provided oversight support at a Brownfields development. The support included assisting the client with the preparation of the RFP, review of proposals submitted by offerors, technical reviews of remedial contractor work plans, reports and field oversight activities, including soil gas sampling, soil boring and sampling, groundwater sampling, geophysical investigation, and underground storage tank removals. Also, provided Phase I environmental assessment support. Served as technical lead.
- Managed and conducted facility assessment/audits at selected facilities in different locations during a five-day span. Work included on-site analysis and documentation of processes and storage areas, employee interviews, review of training/maintenance records and operating procedures of engineering processes, and release prevention measures and hazards. Prepared site health and safety plans and inspection reports identifying violations and recommended corrective measures. Provided similar support for Yakima 112@ inspections in Washington State for 8 facilities.
- Managed and conducted a feasibility study of wind/solar-powered pumps and generators as a source of alternative energy for communities; installed such pumps/generators at rural locations in Somalia; and conducted a pilot study to assess cost efficiency and performance.
- Conducted a feasibility study for ISERST/VITA (a USAID funded joint venture) on introducing new techniques/technologies in household energy use practice to encourage use of renewable energy. The study included surveys/interviews with households, energy suppliers, equipment manufacturers, and government officials in locations throughout the Republic of Djibouti. Submitted a report with recommendations based on the finding.
- Compiled data on energy use practices in Somalia and presented a report at a Biomass Energy Users Network Conference in Bangkok, Thailand. Participated in a week-long conference as one of two representatives from Somalia. Also submitted project proposals for solar, wind, and biogas technologies as a viable alternative and sustainable energy sources for Somalia's domestic energy need. Implemented some of these projects while working for USAID funded energy program. Additionally, under this program served as the Technical Director of research and development. Conducted a year-long study in household energy use in collaboration with a researcher at Princeton University used the results to design and develop efficient wood and charcoal burning stoves to save trees and improve the living conditions for communities. Several of the designs developed caught on and are now widely used around the eastern African nations.

- Performed selection of surface and groundwater models and conducted an evaluation of preliminary model parameters for a pilot study of the aggregate impact of chemical releases from seven refineries along the Delaware River. Also performed computer modeling using the Graphical Exposure Modeling Systems (GEMS) to determine the fate of the chemicals released from refineries. The modeling effort was one aspect of an effort to collect data for the Delaware River Initiative.
- Prepared a handbook/papers/fact sheets describing US legislative/programmatic approach to the UN Environmental Program (UNEP) priority contaminants of the marine environment from land-based sources, carried out to prepare for UNEP Strategy Session. Analyzed Clean Water Act and other legislation to identify elements addressing point/non-point pollution sources and identification/analysis of management techniques, programs, and technologies to reduce such pollutants.
- As part of the Groundwater Protection Technical Review Team, assisted EPA's Texas STEAM Team in support of the TNRCC Municipal Solid Waste Division. Reviewed/commented on QA/QC Sections of Soil and Liner Evaluation Reports and Flexible Membrane Line Evaluation Reports for municipal solid waste landfill liners before cells' approval for receipt of waste.

Data Integrity

Mr. Nur managed a project to provide support to EPA Region 6 for the preparation, certification analysis, storage, and shipping of audit samples for Method 0030/0031 of RCRA trial and risk burns, as required of permitted facilities burning hazardous waste. As part of the QA/QC for this testing, the companies are required to analyze a minimum of three audit samples at the time of stack sample collection and analysis. TechLaw prepares the gas mixtures for the audit, certifies the analysis, and assembles and provides the necessary equipment during the trial or risk burn. He managed this project under four consecutive REPA contracts in support of EPA Region 6 or EPA HQ.

Additional Related Training:

Dangerous Goods Certification, 1998 and Biennial Updates; Sampling Training, 1996; RCRA Orientation, 1994; EPA's Construction QA/Construction Quality; Control for Waste Containment Facility and Hydrologic Evaluation of Landfill Performance (HELP) Model, 1994; BIF Trial Burn Training, 1994, 1996, 1997; KRISP (Public Speaking) Training, 1994; National Ground Water Association's Migration, Assessment, and Remediation of Non-Aqueous Phase Liquids Training, 1993; 40-hr OSHA HAZWOPER Training, 1992 & Annual Updates; 8-hr HAZWOPER

Management/Supervisor Training, 1993; Hazardous Waste Identification Training, 1992; VITA and UCA Fresno's Management Information System Training, 1984, 1986; U of Florida Training In Alternative Energy Technologies (4-mth certificate training), 1984; VITA's Statistical and Data Analysis Training, 1984; VITA's Information Resource Development Course, 1984

Publications/Presentations:

Ruggles, Roger and Mohamed H. Nur, "Interfacing AutoCAD, Kpipe and dBase III+," Proceedings of the 8th Annual Conference on Micro-computers in Civil Engineering, Orlando, FL, October 31-November 1, 1990.

Ruggles, Roger and Mohamed H. Nur, "Interfacing a Computer Model Output to AutoCAD," American Society of Engineering Education, Civil Engineering Division, July 1990.

Nur, Mohamed H., "Interfacing a Computer Model Output to AutoCAD": NCUR Proceedings, April 1990.

Nur, Mohamed H., "Efficient Cookstoves – They may not be beautiful but they work": VITA News, USA 1985.

Affiliations:

- American Society of Civil Engineers
- Air and Waste Management Association
- Biomass Users Network – Founding Member
- American Society for Testing and Materials
- National Ground Water Association
- International Association for Environmental Hydrogeology
- American Water Resources Committee

Employment History:

<u>Company</u>	<u>Position</u>	<u>Duration</u>
TechLaw, Inc.	Program Manager	10/01/97 – Present
A.T. Kearney, Inc.	Consultant/Engineer	1992 – 1997
Virginia Tech University	Research and Teaching Assistant	1990 – 1992
U.S. Agency for International Development	Manager	1986
Volunteers in Technical Assistance	Technical Director/Researcher	1983 – 1986