

Air Quality Profile

September 2016

ID	Competency Statement	Type
CATEGORY A: Environmental and Social Impact Assessment		
SUB-CATEGORY 1: Conducting Environmental and Social Impact Assessments		
3	Determines if sufficient baseline data is available for the impact assessment study.	2
4	Reviews facility/development design or production/manufacturing processes as part of the environmental and social impact assessment	2
5	Consults with stakeholders to gather information regarding the perceived impacts of development activities on communities, the environment and natural resources.	2
6	Identifies which areas are likely to be significantly impacted by development activities, e.g. biophysical, economic, social, cultural, and heritage resources.	3
7	Assesses environmental and/or social issues, risks or problems, including their cumulative effect and corresponding economic, social and cultural impacts.	2
9	Prepares environmental impact assessment report(s) that may include mitigation, environmental protection, and recovery plans.	2
CATEGORY B: Site Assessment (RRR)		
SUB-CATEGORY 2: Conducting Environmental Site Assessments (ESA - Phase 1 and Phase 2)		
14	Conducts investigation, sampling, screening, and analysis (including geophysical mapping) activities of landforms, soil, ground water, sediments, airborne contaminants, etc., as required.	2
16	Prepares site assessment report(s) to meet regulatory and other requirements, identifying potential risk and scope of further action by appropriate stakeholders, if necessary.	2
CATEGORY C: Regulatory & Enforcement		
SUB-CATEGORY 5: Interpreting/Enforcing/Complying with Environmental Regulations and Environmental or Sustainability Standards		
34	Provides advice and/or testimony to sr. management, internal staff, regulatory bodies, interest groups and the public regarding environmental regulations and environmental or sustainability standards' issues.	1
35	Applies environmental legislation regarding issues such as contaminated sites, hazardous materials and waste, pesticide use, storage tanks, etc. to specific applications as appropriate.	1

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36	Defines environmental and/or sustainability performance requirements for specific jurisdictions.	2
37	Prepares regulatory applications.	2
38	Prepares permits and operational permit reports (including air permits, waste disposal permits, resource harvesting permits, etc.).	2
39	Negotiates the terms and approval of compliance procedures and permits, including approval of development plans and use of technology such as Pollution Prevention, Abatement, and Control equipment and systems.	3
40	Develops plans and programs to meet environmental regulatory requirements and/or environmental and sustainability standards.	1
41	Implements programs, including monitoring activities, to ensure regulatory compliance and standards conformance.	1
42	Evaluates compliance with environmental regulations and conformance to environmental and sustainability standards.	1
43	Prepares compliance and regulatory reports for internal use and for filing with regulatory or reporting agencies.	1
45	Oversees or participates in audits of the environmental and/or sustainability performance to determine adequacy of procedures and non-compliance/conformance issues.	2
723	Demonstrates understanding of meteorological concepts, what dispersion modeling is, its inputs, data requirements, application of criteria and how to interpret the model and results	2
724	Run regulatory air quality models to assess air quality compliance for the purpose of meeting standards or criteria	2
725	Prepare air quality assessments to investigate potential impact of new developments to comply with municipal planning requirements or reduce public complaints	2
726	Develops emissions inventories (criteria air contaminant and GhG) or calculate emissions for assessment of air quality for regulatory or non regulatory (engineering, design, reporting, national pollutant release inventory (NPRI))	2
CATEGORY D: Pollution Prevention, Abatement, & Control		
SUB-CATEGORY 6: Implementing Pollution Prevention, Abatement & Control (PAC) Methods		
46	Assesses operations and processes for potential pollution problems (involves identifying contaminant sources, determining their characteristics and the magnitude of the potential risks).	1
47	Characterizes the attributes of processes and products generated (for example, chemical/biological composition, toxicity, physical properties and degradability).	1

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48	Evaluates the presence and dispersion of pollutants over large geographic areas using, for example, remote sensing devices such as satellites and aerial photos, regional monitoring devices and government reports, and regulated models.	1
49	Develops recommendations for the best management practice for pollution prevention, abatement, and control measure(s), including the evaluation of control options versus process changes.	1
51	Monitors the effectiveness of Pollution Prevention, Abatement, and Control (PAC) solutions, and the performance of installed PAC equipment, systems and technologies.	2
727	Prepare and submit to the national pollutant release inventory (NPRI) the quantities of substances that are released in the air by facilities on an annual basis	3
730	Demonstrate a general knowledge of air emissions control technologies.	2
731	Assist in the development and implementation of air quality monitoring and control plans for the site	2
CATEGORY E: Climate Change		
SUB-CATEGORY 7: Identifying and Mitigating Climate Change Impacts		
56	Develops greenhouse gas emissions inventories/trading systems to be compatible with the regulatory programs.	2
57	Tracks air quality and greenhouse gas emissions for purposes such as evaluating, reporting and trading emissions.	2
58	Develops greenhouse gas emissions/climate change reports.	2
CATEGORY F: Waste Management		
SUB-CATEGORY 8: Developing/Implementing Waste Management Plans and Programs		
69	Analyzes waste streams and volumes to determine the best technology for operations, commercial waste opportunities, and/or waste reduction strategies.	3
CATEGORY H: Environmental Sampling & Analytical Work		
SUB-CATEGORY 11: Developing Environmental Sampling, Testing and Monitoring Programs		
86	Determines the need and scope for sampling program, including environmental indicators, chemicals of concern, and sampling constraints	1
87	Develops environmental sampling protocols, including data quality objectives, the frequency and timing of sampling, optimum locations for continuous or discrete sampling, data capture systems, sampling procedures, sampling methodology, personnel, and parameter list for analysis.	2

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88	Develops site-specific work plans, including Quality Assurance/Quality Control (QA/QC) methods, measuring/monitoring procedures and analytical equipment (both field and lab equipment) to be used for the specific application (e.g. air, water, soil, sediments, rock, fauna, flora, human, workplace, etc.).	1
91	Maintains analytical test instruments and monitoring or sampling equipment as per manufacturers' user-maintenance specifications and user's standard operating procedures, including calibration of instruments/equipment.	3
SUB-CATEGORY 12: Collecting Samples and Data for Environmental Purposes		
92	Determines the appropriate sample size, sampling containers, protocols, preservation methods, collection apparatus and transportation, etc.	3
93	Selects, assembles and deploys analytical test instruments or sampling equipment (such as data capture systems, continuous monitoring devices, drilling cores, water bailers, etc.), including assembly and documentation of deployment and operational conditions and other pertinent details, such as any deviation to standard procedures.	1
94	Collects samples and specimens as per established protocol, using more routine sampling procedures and apparatus.	1
95	Collects samples and specimens as per established protocol, using more complex sampling procedures and apparatus.	2
96	Uses appropriate techniques to prepare (code, preserve, pretreat and transport) samples for analysis while maintaining chain of custody requirements and sample integrity.	1
99	Performs direct measurement of physical parameters for air/water/soil, including for example, temperature, flow rates, pressure, gaseous/particulate emissions, etc.	1
102	Maintains appropriate records and ongoing documentation pertaining to field and laboratory analytical work, including regulatory documentation.	1
SUB-CATEGORY 13: Analyzing and Interpreting Environmental Samples and Data		
108	Makes required calculations and estimates including for example, calculation of air quality indices (e.g. daily smog ratings).	2
109	Conducts statistical analysis of data using appropriate computer software, databases, etc.	2
110	Assesses the accuracy and precision of analytical results by applying good practice guidance or established QA/QC methods.	2

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111	Interprets analytical data to identify trends, significant changes from historical patterns, deviations, or evidence of environmental stresses, etc.	1
112	Determines how results will be applied, for example redesigning sampling protocol, redesigning research methodology, developing a baseline dataset, etc.	2
113	Conducts quality control reviews of data collection, processing, and analysis to ensure data is 'fit for purpose' using accepted scientific practices and proper Quality Assurance/Quality Control (QA/QC) protocols.	2
114	Prepares summary reports of analysis results to be added into technical reports or presentations to expert and/or non-expert audiences	1
CATEGORY I: Policy Development & Planning		
SUB-CATEGORY 14: Developing Environmental Policies, Measures & Standards		
116	Reviews existing and/or proposed environmental policies/legislation/standards (and the rationale supporting them) to assess implications to stakeholders, including customers and suppliers.	1
117	Influences environmental policy and legislation by participating in or leading expert level environmental committees and associations.	2
118	Consults with experts, including environmental, policy and legislative experts in public, corporate, non governmental organizations (NGO), and governments, regarding new or revised environmental policies and legislation to make recommendations to regulatory authorities.	2
728	Provides feedback to developers of air quality legislation, regulation, standards and guidelines	3
729	Contributes in the revision of existing and/or proposed air quality legislation/regulation/standards and their rationale to disseminate implications to stakeholders	3
SUB-CATEGORY 19: Conducting Environmental Risk Assessments		
159	Assesses the effectiveness of risk management activities to minimize impact on the environment and human health.	3
SUB-CATEGORY 20: Implementing Environmental and/or Sustainability Management Systems		
160	Develops an Environmental and/or Sustainability Management System which is consistent with the organization's strategic plan and regulatory requirements.	3
161	Implements the Environmental Management System strategies and practices.	3