

RFQ No. 11-172
Operations and Maintenance Department Technical Training Program

Information for Respondents

Advertised on the Metro Vancouver website (<http://www.metrovancouver.org/bids/Pages/default.aspx>) and BC Bid (www.bcbid.gov.bc.ca).

Information

Metro Vancouver, through the Greater Vancouver Regional District (the Corporation) invites Responses to this Request for Qualifications (RFQ) to design, develop and implement a competency-based technical training program (including facilitating the development and/or updating of training and other technical reference materials, such as procedures) for the Corporation's Operations and Maintenance (O&M) Department. It is important to note that "technical" training is intended to be Corporation-specific technical skills and knowledge training and is not intended to include "management/business" training or "safety" training which is developed, delivered and administered by other groups within the Corporation. More specifically, the intent of this RFQ is to short-list up to five (5) of Respondents to participate in a Request for Proposal.

Request for Qualification documents may be viewed at or obtained from the Metro Vancouver Purchasing Department, 5th Floor, 4330 Kingsway, Burnaby, BC, Tel. (604) 432-6326. This RFQ may also be downloaded directly from the Metro Vancouver website at <http://www.metrovancouver.org/bids/Pages/default.aspx>.

Please return one (1) paper copy and one copy in an electronic format (either CD-ROM or memory key) in a sealed package bearing the name of the firm responding, to the following specific physical location by end of business day **on the 29th day of February, 2012:**

Purchasing & Mail Reception,
Metro Vancouver,
5th Floor, 4330 Kingsway,
Burnaby, BC V5H 4G8

Please note: Facsimile or email Responses will not be accepted.

Metro Vancouver reserves the right to accept, but is under no obligation to accept late Responses.

While it is anticipated that this RFQ may lead to a Tender or Request for Proposal, Metro Vancouver reserves the unfettered right to determine the next steps in the process which may include negotiation with the front-runner(s), issuing a Tender or Request for Proposal to short-

listed Respondents only, collapsing this process entirely or pursuing a different selection process altogether.

Metro Vancouver will endeavor to post the list of Respondents on the Metro Vancouver website by 10:00 a.m. the business day following the submission deadline. Only the Respondents' names will be disclosed. All inquiries regarding the Submissions will be referred to that site. Only the short-listed Respondents will be contacted at the conclusion of the process. As only the successful Respondents will be contacted at the conclusion of this RFQ, Metro Vancouver wishes to thank all Respondents for their effort in responding to this bidding opportunity.

Please be sure to read the RFQ document in its entirety before submitting a Response.

Purchasing's hours of business are 8:00 a.m. to 4:30 p.m., Monday through Friday.

For further information, please contact Linda Borden at linda.borden@metrovancover.org



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Greater Vancouver Regional District • Greater Vancouver Water District

Greater Vancouver Sewerage and Drainage District • Metro Vancouver Housing Corporation

4330 Kingsway, Burnaby, BC, Canada V5H 4G8 604-432-6200 www.metrovancouver.org

GREATER VANCOUVER REGIONAL DISTRICT

REQUEST FOR QUALIFICATIONS (RFQ) 11-172

Operations and Maintenance Department Technical Training Program

January 27, 2012

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PART 1 INTENT

The intent of this Request for Qualification (RFQ) is to seek statements of qualifications (Responses) from parties (the Respondents) interested in designing, developing and implementing a competency-based technical training program (including facilitating the development and/or updating of training and other technical reference materials, such as procedures) for the Corporation's Operations and Maintenance (O&M) Department. This program is expected to ensure that competency based training practices are consistently applied across all Divisions of the O&M Department to assure the technical competency of personnel and improve the efficiency and effectiveness of technical knowledge and skills transfer. It is important to note that "technical" training is intended to be Corporation-specific technical skills and knowledge training and is not intended to include "management/business" training or "safety" training which is developed, delivered and administered by other groups within the Corporation. More specifically, the intent of this RFQ is to short-list up to five (5) Respondents to participate in a Request for Proposal. The successful Proponent from the RFP process should consider and plan for extensive participation from the Corporation's project management team throughout the execution of the project.

The Corporation's budgets are approved on an annual basis and although it is anticipated that this project will be a multi-year program, the Corporation reserves the right to terminate the services should the funding support be removed.

Only parties that have responded to this RFQ and are short-listed will be invited to participate in contemplated Request for Proposal. Please see Section 00010, Response Submission below.

While it is anticipated that this RFQ may lead to a Tender or Request for Proposal, Metro Vancouver reserves the unfettered right to determine the next steps in the process which may include negotiation with the front-runner(s), issuing a Tender or Request for Proposal to the short-listed Respondents only, collapsing this process entirely or pursuing a different selection process altogether.

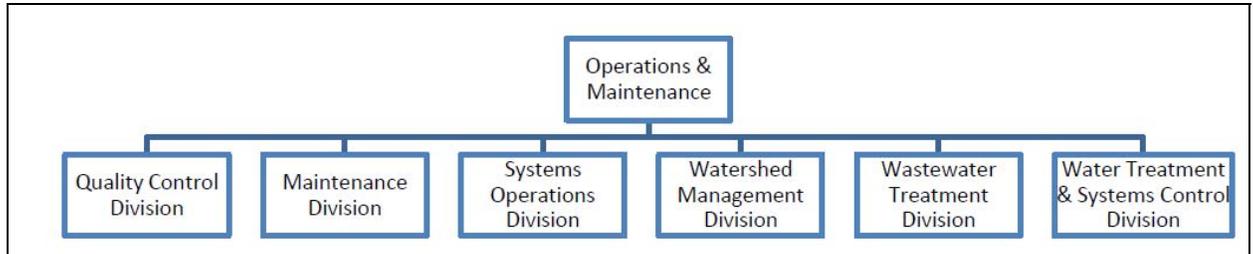
This is not an invitation to tender or request for proposal. By participating in the RFQ each Respondent expressly agrees that no contract of any kind is formed under, nor any legal obligations whatsoever arise out of this RFQ.

PART 2 BACKGROUND INFORMATION/PROJECT DESCRIPTION

The Corporation's Operations and Maintenance (O&M) Department is responsible for operating and maintaining the water and wastewater utility infrastructure for the 2 million inhabitants of

the region. This includes treating and supplying approximately 1 billion litres/day of potable water as well as collecting and treating approximately 1 billion litres/day of wastewater.

The Department consists of six Divisions (see graphic below):



The six Divisions in the Corporation's Operations and Maintenance Department have different systems and methods currently in place to address their need for technical training. In addition, some of the Divisions have already begun development of the deliverables and it is the intent of this project to build upon this existing work. Additional information on the Department and Divisional context can be found in Appendix C. Additional documents are also available on the ftp site: <http://info.metrovancouver.org/Purchasing/11-172/11-172.Appendices.zip>

The intent of this assignment is to partner with the Corporation to design, develop and implement a competency-based technical training program (facilitating the development and/or updating of training and other technical reference materials such as procedures) for the Operations & Maintenance (O&M) Department. This program is expected to ensure that these training practices are consistently applied across all Divisions of the O&M Department to assure the technical competency of personnel and improve the efficiency and effectiveness of technical knowledge and skills transfer.

It is the intent of the Corporation to build upon the existing blended learning model used for the Corporation's water treatment facilities and administer the training through the OperatorSuite™ learning management system. The blended learning model reflects the variety of learning styles typical of adult learning educational programs and includes web-based learning, group/classroom learning (scenario based) and field/hands-on learning.

Respondents should be familiar and have experience with industrial processes, preferably water and wastewater treatment plant unit processes, pumping systems, water transmission/wastewater collection mains, valve chambers, electrical substations, reservoirs and related mechanical, electrical, instrumentation and control systems.

Respondents should have extensive experience with instructional design, development of competency assurance programs, facilitation of multi-discipline workshops, document reviews, web-based training development, and the utilization of effective techniques to efficiently lead a

group of engineering, operations, maintenance and other technical personnel in the development of these types of deliverables.

In addition, the Respondents should have experience with Reliability Centered Maintenance processes (RCM2) and Maintenance Task Analyses (MTA).

Respondents should demonstrate their capability and experience in developing technical training of comparable style, quality and functionality to the Seymour Capilano Filtration Plant's computer based training (sample module available for viewing in Appendix F).

Objectives

The objectives of the Project are as follows. Depending on the Division, some of these objectives are either in progress or completed.

1. Prepare a list of tasks carried out by each Division and determine a criticality ranking for each task using the Critical Task Analysis (CTA) model. (Template and sample deliverable provided in Appendix D)
2. Using the American Water Works Association / Water Environment Federation (AWWA/WEF) Water competency model framework, develop a competency matrix that identifies the desired skills and knowledge for each job position. (Sample deliverable provided in Appendix E)
3. Review existing learning resources and conduct a gap analysis on required technical training components (e.g. procedures, overview documents, PowerPoint presentations, coaching guides, assessment guides etc.) (Sample deliverable provided in Appendix F)
4. Building upon the draft technical training Table of Contents (Appendix G), recommend appropriate systems of organization (hierarchy of learning modules/courses) for any new/revised components. Prepare a separate Table of Contents for each learning type (web, group, field, etc.)
5. Map competencies to training components.
6. Recommend program/component development priorities considering the results of the Critical Task Analysis and timing of knowledge loss. (Sample deliverable provided in Appendix H)
7. Prepare a development plan and schedule (Sample deliverable provided in Appendix I) indicating the length and duration of consulting person/hours required during program development and the length and duration of the Corporation's person/hours required during program development.

8. Develop technical training program components and technical reference materials.

Training program components are expected to include, but are not limited to the items listed below.

a. Web Based Training (e-learning)

Develop Intranet Web-Based Training modules (including content and competency assurance assessments) focused on teaching “what” and “why” theory knowledge. It is expected that Web Based Training modules will be SCORM 1.2 conformant and integrated with Operator Suite™ and most other Learning Management Systems.

b. Field Training Program

Facilitate the development of Walkthrough Guides, including a pre-requisite list and recommended study material.

Facilitate the development of Skills Demonstration Assessment Guides.

The Field Training Program should be focused on the hands-on “how-to” learning with involvement of experienced mentors/trainers and must include a competency assurance assessment.

c. Scenario Training

Develop Lesson Plans (including assessments) that will complement the Web Based Training and Field Training learning and address topics better suited to a classroom/group learning format. Suggested topics include: specialized equipment, system interrelationships, teambuilding activities, group problem-solving and optimization techniques.

d. Training Effectiveness Assessment Tools

Provide online tools to assess learning as well as training program effectiveness and trainee experience (e.g. learner evaluation questionnaires, pre/post testing comparisons, etc.)

Technical reference materials include, but are not limited to:

a. Procedures

Using the Corporation’s existing templates (sample reference included in Appendix F), complete a Hazard Identification and Risk Assessment for each task and facilitate the development of operations and maintenance procedures.

b. Equipment List

Assist the Corporation in preparing and/or updating and validating asset identification information (equipment numbers and descriptors) for the creation of comprehensive equipment lists.

c. Process Overview Drawings

Assist the Corporation in preparing and/or updating process overview drawings

d. Process Narratives

Assist the Corporation in preparing and/or updating process narratives.

e. Troubleshooting Guides

Assist the Corporation in preparing and/or updating troubleshooting guides and/or databases.

9. Assist the Corporation in start-up implementation of the training program, including but not limited to:

a. Uploading and beta testing of data, modules, etc. into OperatorSuite™.

b. Train-the-Trainer sessions

The successful Proponent will be expected to develop and provide Train-the-Trainer (including provision of Trainers' Manuals and Supporting Material) sessions for the following:

i. Field Training Skills Demonstration Assessments

ii. Scenarios facilitation

iii. Reliability Centred Maintenance Task Analysis facilitation

The technical training program is expected to assure the ongoing technical competency of Operations and Maintenance personnel and improve the Corporation's efficiency and resiliency with respect to addressing heightened regulations, rapid demographic changes and increasingly complex infrastructure.

The successful Proponent shall be responsible for working in partnership with the Corporation to coordinate the services of Corporation employees as well as others which may be directly engaged by the Corporation to provide information for the use of the Proponent.

Utilizing a Subcontractor (who must be clearly identified) in order to meet the Corporation's requirements is acceptable. This also includes a joint submission by two Respondents having no formal corporate links. However, in this case, one of these Respondents must be prepared to take overall responsibility for successful interconnection and delivery of the Services. This must be defined in the submission.

PART 3 FORMAT OF RESPONSE

A clear and concise presentation of information is encouraged. No assumption should be made that any information regarding a Respondent is known to the Corporation except as provided in Response to this RFQ. Responses to this RFQ should include the following:

1. Title Page – showing RFQ number, Respondent name, address, telephone number, fax number, email address and contact person
2. Letter of Introduction - One page introducing the Respondent and signed by the person(s) authorized to sign on behalf of the Respondent
3. Table of Contents, including page numbers
4. Company Description
 - a. The type of work Respondent specializes in, and the number of projects of work done by company in last five (5) years.
 - b. Relevant qualifications of the company and a short description of similar specific recent references that clearly relate past experience relevant to the scope of services to be undertaken in this assignment. For each past project, provide project name, project location, scope, duration of project and number of trainees, contact name, contact title, phone number, fax number. Describe the relevance of the referenced projects and clients to this assignment, particularly outlining experience in design, development and delivery of competency assurance programs and demonstrating familiarity with industrial processes and equipment and RCM2 methodology at a corporate level and with the proposed project personnel. Include information on the available capacity for instructional design.
 - c. List number of employees in company, number of branch offices, if any, and the number of employees in the office that will support this project. Clearly differentiate between project roles and corporate roles.

- d. Include the résumés of proposed project personnel and any proposed sub-contractors and suppliers. Include information demonstrating experience with facilitating projects of a similar scope, especially demonstrating technical writing experience, instructional design and competence based training programs experience. The Corporation recognizes that a sub-contractor named may not be able to remain part of the Respondent's team for the project. Therefore the Response should focus on the Respondent demonstrating a successful relationship between the Respondent and its named sub-contractors as substantiated by references. Provide brief history, size and background of all firms involved Describe corporate qualifications and ability of each firm to undertake this project. Identify corporate resources in the context of this assignment.

5. Sustainability

Respondents should complete and include within their Submission Appendices A and B. The Corporation will review the information provided in the Declarations and may deduct marks based on information contained in the Declarations.

It is the Corporation's policy that its procurement decisions take into account Respondents' environmental and social impacts and practices. A total of 10% of the overall evaluation of Submissions is attributed to Respondents' environmental and social achievements.

To this end, the Respondent's Submission will be evaluated and scored, in part, on evidence of the Respondent's sustainability profile and efforts. Therefore, Respondents are encouraged to invest the appropriate effort to submit all applicable evidence and information regarding their organizations' environmental and social programs, initiatives and policies, and to list the resulting social and environmental impacts. Specifically the Corporation is looking for quantifiable impacts that result from the Respondents' sustainable initiatives, programs and policies. Submissions that disclose the metrics as well as the dates that the impacts were realized and measured are preferred over those that do not.

For illustrative examples of sustainability submissions, please visit <http://www.metrovancouver.org/bids/Pages/default.aspx> (go to metrovancouver.org, select services, select bidding opportunities) and view [Examples of Extraordinary Environmental & Social Impacts](#) in the right panel.

6. Any other items of particular relevance to the Project

7. Appendices, if applicable.

Unnecessarily elaborate responses beyond that sufficient to present a complete and effective response are not required and unless specifically requested in the solicitation the inclusion of elaborate art work, corporate brochures and lengthy narratives is discouraged.

Response Submission

One (1) paper copy and one copy in an electronic format (either CD-ROM or memory key) of your Response should be submitted. If any discrepancies are found between the electronic copy and the paper copy, the information in the paper copy will prevail.

Responses should be received at the specific physical location referred to below by the end of business day on the 29th day of February, 2012 (the “Response Closing”):

Purchasing & Mail Reception
Metro Vancouver
5th Floor, 4330 Kingsway
Burnaby, British Columbia V5H 4G8
Canada
(the “Purchasing Department”)

Metro Vancouver reserves the right to accept, but is under no obligation to accept late Responses.

Information to Respondents

The Corporation’s evaluation of the Responses and assessment of the qualifications shall be final.

The Corporation reserves the right to advance to the next phase of the process a Respondent that was not previously short-listed in the event that a short-listed Respondent notifies the Corporation they no longer intend to participate in the process.

By submitting a Response to this RFQ, each Respondent agrees to be solely responsible for any and all costs and expenses incurred by it in preparing the Response, including any costs incurred by the Respondent after the Response Closing.

Explanations, interpretations, or clarifications may be made in the form of Addenda. Addenda may be issued by the Corporation during the Response period and will be posted on the corporate website.

All Addenda issued by the Corporation shall be incorporated into and become part of the Documents. Addenda will be issued by the Corporation to all qualified persons of record receiving Documents.

PART 4 EVALUATION OF RESPONSES

The Corporation will evaluate the Responses received and will select up to five (5) Respondents who are deemed qualified at the sole discretion of the Corporation to participate in the next phase of the process.

Selection for advancement to the next stage does not constitute the formation of a Contract between the Corporation and the Respondent.

With respect to this evaluation process, the Corporation, in its sole discretion, shall have the unfettered right to:

- accept any Response;
- reject any Response;
- reject all Responses;
- reject a Response even if it is the only one received.

Metro Vancouver reserves the right to request additional information and/or seek clarification from any Respondent or invite any or all Respondents to provide brief presentations, but shall not be obligated under any circumstance to do so and may request this of one Respondent without any obligation to request the same of any other Respondent.

All Responses received will be evaluated based on:

Respondent's Experience: (70%)

- Respondent's corporate qualifications and relevant experience. The Corporation reserves the right to obtain their own references and to take these references into consideration in the evaluation of Responses.
- Capability of firm including available resources to handle the scope and size of the Project.
- Experience in design, development and delivery of competency assurance programs.
- Instructional design capacity.
- Familiarity with industrial processes and equipment.

Respondent's Personnel: (20%)

- Respondent's technical personnel on staff who would be resource personnel for this project.
- Proposed personnel's experience with facilitating projects of similar scope.
- Proposed personnel's experience with technical writing for projects of similar scope.
- Proposed personnel's experience with instructional design and competence based training programs.
- Proposed personnel's familiarity with industrial processes and equipment and RCM2 technology.

Sustainable Content: (10 %)

- i. Environmental – the relevance and materiality of the Respondent's environmental impacts
- ii. Social – the relevance and materiality of the Respondent's social impacts

It is the Corporation's intent to evaluate Responses as promptly as possible. Corporate staff may contact a Respondent if a clarification is required; otherwise, they are unable to provide any details concerning the evaluation until after the process has concluded.

Metro Vancouver will endeavor to post the list of Respondents on the Metro Vancouver website by 10:00 a.m. the business day following the submission deadline. Only the Respondents' names will be disclosed. All inquiries regarding the Submissions will be referred to that site. Only the short-listed Respondents will be contacted at the conclusion of the process. As only the successful Respondents will be contacted at the conclusion of this RFQ, Metro Vancouver wishes to thank all Respondents for their effort in responding to this bidding opportunity.

PART 5 ENQUIRIES

Any requests for explanations, interpretations or clarifications made by Respondents should be submitted in writing to the Corporation prior to the Response Closing. Any request for clarification or issues related to the RFQ must be transmitted to the Buyer of record identified below.

All queries shall be made in writing to the Corporation's Buyer of record as follows:

Linda Borden, SCMP, C.P.M.
Metro Vancouver
Purchasing Department
5th floor, 4330 Kingsway
Burnaby, BC V5H 4G8
Fax: 604-432-6295
Email: Linda.borden@metrovancover.org

Please Note: The Buyer named above (or designate) is the only valid contact for enquiries. No explanation, interpretation or clarification of the RFQ by any other person whatsoever shall bind the Corporation in the interpretation of the RFQ.

APPENDIX A – DECLARATION OF ENVIRONMENTAL PRACTICES

(to be submitted with your Response)

The Corporation expects that each Respondent has and will comply with any applicable legislation pertaining to the environment. In Canada this includes but is not limited to: *Canadian Environmental Protection Act, 1999 (Canada), Fisheries Act (Canada), Transportation of Dangerous Goods Act (Canada/BC), Environmental Management Act (BC), GVS&DD Municipal Solid Waste and Recyclable Material Bylaw, GVRD Air Quality Management Bylaw and GVS&DD Sewer Use Bylaw, as amended from time to time.*

I declare on behalf of, _____ that:
 (Corporate Name of Respondent)

- 1) The Respondent, or any person who currently holds or has, at any time within the past three years, held the following positions or titles with the Respondent: Officer, Director or Senior Manager, has not been convicted or subject to a determination by a regulatory body, administrative body or other tribunal having jurisdiction over the Respondent, of a violation, within the past three (3) years, under the legislation applicable to the Respondent, other than those set out in the table below

Title of act or Bylaw	Date of violation and regulatory/adjudication body	Description of violation or conviction	Regulatory/Adjudication body document file number

- 2) All the information contained herein is true, accurate, and complete, and I understand that a false declaration may result in the disqualification of the Response from consideration or termination of the resulting contract, without any cost or penalty to the Corporation;
- 3) I am authorized by the Respondent to sign this Declaration, and to submit with the Response, on behalf of the Respondent.

NOTE: Declaration to be completed and signed by the Respondent. Failure to do so may cause the rejection of the Response. Any Changes made to the wording or format of the Declaration of Environmental Practices form shall cause the rejection of the Response.

Additional numbered pages outlining this portion of the Response may be attached to this page and/or separate documents listed above may be submitted with this schedule. Each such additional page and separate document shall be signed by the Respondent.

 Corporate Name of Respondent

 Signature of Respondent

 Date

APPENDIX B - DECLARATION OF SOCIAL PRACTICES

(to be submitted with your Response)

The Corporation expects that each Respondent has and will comply with internationally recognized labour conventions and recommendations of the International Labour Organization (ILO), of which Canada is a member, and any applicable legislation pertaining to the work place safety, employment and human rights. In Canada this includes but is not limited to: *the Corruption of Foreign Public Officials Act (Canada), Human Rights Act (BC), the Employment Standards Act (BC) and the Workers' Compensation Act (BC)*, as amended from time to time.

I declare on behalf of, _____ that:
 (Corporate Name of Respondent)

- 1) The Respondent, or any person who currently holds or has, at any time within the past three years, held the following positions or titles with the Respondent: Officer, Director or Senior Manager, has not been convicted or subject to a determination by a regulatory body, administrative body or other tribunal having jurisdiction over the Respondent, of a violation, within the past three (3) years, under the legislation applicable to the Respondent, other than those set out in the table below:

Title of act or Bylaw	Date of violation/conviction and regulatory/adjudication body	Description of violation or conviction	Regulatory/Adjudication body document file number

- 2) All the information contained herein is true, accurate, and complete, and I understand that a false declaration may result in the disqualification of the Response from consideration or termination of the resulting contract, without any cost or penalty to the Corporation;
- 3) I am authorized by the Respondent to sign this Declaration, and to submit with the Response, on behalf of the Respondent;

NOTE: Declaration to be completed and signed by the Respondent. Failure to do so may cause the rejection of the Response. Any Changes made to the wording or format of the Declaration of Social Practices form shall cause the rejection of the Response.

Additional numbered pages outlining this portion of the Response may be attached to this page and/or separate documents listed above may be submitted with this schedule. Each such additional page and separate document shall be signed by the Respondent.

 Corporate Name of Respondent

 Signature of Respondent

 Date

Appendix C - Operations and Maintenance Department

Below is a brief description of each Division's current context with respect to technical training. In addition to Division-specific requirements, the successful Proponent will be expected to build upon the existing materials and programs in each Division to ensure that all components of a competency based technical training program are in place across the O&M Department.

1. Maintenance Division (~230 staff)

The purpose of the Maintenance Division is to ensure system reliability and optimal life of the operating assets in partnership with the other O&M divisions. The division provides mechanical, electrical, instrumentation and civil maintenance (i.e., minor construction, sewer flushing, flow monitoring, etc.), as well as work planning and maintenance engineering services to the Water Treatment & Systems Control, Systems Operations and Waste Water Treatment (WWT) Divisions.

Assurance of Maintenance Division technical competence is largely centered on hiring staff with trades designations (electrician, mechanic, etc.) and experience and/or development through the Corporation's apprenticeship program. Technical training materials related to the Corporation's water and wastewater infrastructure are anticipated to be primarily developed by the operating divisions and any additional maintenance division specific technical training materials will need to be identified and developed.

The Maintenance Division is currently moving towards SAE Standard JA1011 compliant Reliability Centered Maintenance (RCM) processes and as such has begun carrying out Maintenance Task Analyses (see Appendix J for sample report) on vital and significant equipment using Ivara's EXP PRO software. The successful Proponent will be expected to incorporate the completion of Maintenance Task Analyses (abbreviated version of RCM2 methodology) into their workplan. Maintenance Task Analysis results, include a list of maintenance tasks, complete with all associated job planning details such as skill set required, recurrence frequency, time and manpower requirements, special tools or parts, impact consequences on operation, cost, environment and safety. The software application used to collect and organize the maintenance data should be compatible to both RCM2 and MTA methodologies.

2. Quality Control Division (~70 staff)

The purpose of the Quality Control Division is to provide field, laboratory, technical evaluation and reporting services to monitor the water transmission and treatment and wastewater collection and treatment plants for process control and regulatory compliance purposes. In addition, the division provides environmental monitoring and assessments associated with the Corporation's liquid waste discharges and the affected receiving environments (e.g., bathing beaches) including wastewater treatment plant discharges and combined sewer overflows. As required, the Quality Control Division also provides

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ongoing internal audits of the water and sewer utilities (focusing on quality issues), provides technical and laboratory support to Corporation departments and divisions as well as to member municipalities and liaises with health authorities as necessary for the protection of public health. Finally, the division manages and oversees the Management System for Drinking Water for the Greater Vancouver Water District.

Assurance Quality Control Division technical competence is largely centered on hiring staff with laboratory skills certification and experience and/or development through the Division's laboratory skills training program as well as participation in various operations and/or planning meetings. The Division also follows stringent requirements related to CALA certification for the management of the laboratories. Laboratory skills competency records are maintained through the Division's Laboratory Information Management System (LIMS). Technical training materials related to the Corporation's water and wastewater infrastructure are anticipated to be primarily developed by the operating divisions and any additional Quality Control Division specific technical training materials will need to be identified and developed, including but not limited to improvements to the format and delivery of their Quality Manual.

3. Systems Operations Division (~105 staff)

The purpose of the Systems Operations Division is to ensure the safe, efficient, and reliable field operation of the water transmission infrastructure (i.e., dams, intakes, reservoirs, pump stations, etc.) for the Corporation. This division is also responsible for the wastewater collection infrastructure (trunk sewer mains and pump stations) in the same area. Specialized engineering services are either conducted internally or provided by the Engineering and Construction (E&C) Department or external consultants.

The water infrastructure consists of six dams, 22 distribution system reservoirs, 15 pumping stations, and 550 kilometres of transmission mains. The wastewater collections infrastructure consists of 33 pumping stations, 440 kilometres and interceptor sewers.

Assurance of Systems Operations Division technical competence is largely carried out through on the job learning from experienced staff or self learning. The Division recently completed a joint project with the Systems Control staff of the Water Treatment and Systems Control Division to compile a list of tasks, complete a critical task analysis (CTA), develop a competency framework and prepare a plan for the development of technical training materials and procedures for the water transmission system and the wastewater collection system (see Appendix K – Utility Systems Procedures and Technical Training Program Analysis Final Report). It is expected that these two Divisions will continue to work closely together throughout this project.

The successful Proponent will be expected to complete the Systems Operations-related scope outlined in that report as well as update or create a variety of supporting documents, including verified equipment lists for the water transmission and wastewater collection systems.

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For the equipment lists, the successful Proponent will be expected to update the asset identification information (numbers and descriptors) for the water transmission and wastewater collections system to the Corporation's standards. A copy of the standards is included in Appendix L.

The work will involve:

- review of our existing maintenance management system and control system data bases,
- review of our existing drawings,
- site visits to confirm and note deficiencies of collected data,
- development of proposed data changes,
- marking up of drawings showing suggested changes,
- site visits to confirm data change requirements
- site visits to ensure field numbering changes are made.

In addition, the successful Proponent will be expected to expand the competency matrix to include the remaining staff in the Division, map training components to competencies, as well as identify and develop any additional training materials required.

4. Wastewater Treatment Division (~115 staff)

The purpose of the Wastewater Treatment Division is to effectively manage, operate and maintain wastewater treatment plants, meeting the requirements of the Waste Management Permit, Environment Canada and the Department of Fisheries Regulations and other mandates of the Corporation. Currently the wastewater treatment infrastructure includes two primary treatment facilities (Lions Gate Wastewater Treatment Plant and Iona Island Wastewater Treatment Plant) and three secondary treatment facilities (Annacis Island Wastewater Treatment Plant, Northwest Langley Wastewater Treatment Plant and Lulu Island Wastewater Treatment Plant).

Assurance of Wastewater Treatment Division technical competence is largely centred on hiring staff with specialized expertise, knowledge and certification levels, in addition to on the job learning from experienced staff or self learning.

The Division currently has an extensive library of operating procedures and has had training programs in place since the Division's inception. It is acknowledged that while this training has served the Division, the existing programs need to be supplemented, upgraded and consolidated to serve the Division in the coming years. In addition, the Division has made significant efforts to develop a comprehensive list of competencies for the operating staff as well as a draft list of required learning components and system of organization.

Water Treatment & Systems Control Division (~70 staff)

The purpose of the Water Treatment and Systems Control Division is to remotely operate Metro Vancouver's water transmission and treatment and wastewater collection systems in keeping with sustainability principles, providing our member municipalities and other customers with safe, reliable, and affordable drinking water and wastewater collection services that safeguard public health and protect, conserve and enhance the environment for this generation and those to come. The treatment infrastructure includes the Seymour Capilano Water Filtration Plant, the Coquitlam Water Treatment Plant and eight (8) rechlorination stations in the distribution system. The transmission infrastructure includes six dams, 22 distribution system reservoirs, 15 pumping stations, and 550 kilometres of transmission mains

Water Treatment & Systems Control (WTSC) Division has been developing online, field and classroom training for over 10 years. Assurance of Systems Control technical competence is largely carried out through on the job learning from experienced staff or self learning. The Systems Control staff in the Division recently completed a joint project with the Systems Operations Division to compile a list of tasks, complete a critical task analysis (CTA), develop a competency framework, and prepare a plan for the development of technical training materials for the water transmission system and the wastewater collection system (see Appendix K – Utility Systems Procedures and Technical Training Program Analysis Final Report). It is expected that these two Divisions will continue to work closely together throughout this project.

The successful Proponent will be expected to undertake the following:

- updating of the existing web-based training modules at the Coquitlam Water Treatment Plant (CWTP) as listed in Appendix M.
- updating of the existing web-based training modules at the eight re-chlorination (RCL) facilities as listed in Appendix M.
- develop scenario-based training components for the CWTP and RCL facilities.
- develop web, field and scenario based training components, including procedures and troubleshooting guides, for the new UV treatment process at the CWTP. Potential systems are listed in Appendix M.
- complete the Systems Control related scope in the report in Appendix K – Utility Systems Procedures and Technical Training Program Analysis Final Report.
- review, update and develop trouble shooting guides for the CWTP and RCL facilities.

5. Watershed Management Division (~70 staff)

The purpose of the Watershed Management Division is to implement a range of watershed programs in each of the three mountainous drinking water collection areas (Capilano, Seymour, and Coquitlam), the Lower Seymour Conservation Reserve and three Drainage Areas in the Lower Mainland (Still Creek-Brunette River, Port Moody-Coquitlam and University Endowment Lands). The programs are designed to assist the corporation in its efforts to provide high quality water supplies and to ensure efficient conveyance of raw water. Additionally, the division is involved in numerous stewardship and education initiatives aimed at improving the environment and natural resources through cooperation with community groups.

Assurance of Watershed Management Division technical competence is largely centered on hiring staff with specialized expertise and knowledge in addition to on the job learning from experienced staff or self learning. Technical training materials related to the Corporation's water infrastructure are anticipated to be primarily developed by the operating divisions and any additional Watershed Management Division specific technical training materials and/or other methods to capture and transfer knowledge will need to be identified and developed.