

Agenda _____
Board of Directors Study Session & Special Meeting

**HOLLAND BOARD OF PUBLIC WORKS
 625 HASTINGS AVENUE
 HOLLAND, MICHIGAN**

**September 2, 2009
 4:00 p.m.**

Call to order

1.	CONSENT AGENDA	Not applicable
2.	COMMUNICATIONS	<p>The Board welcomes input from the audience at this time.</p> <p>Please state your name and address before addressing the Board. Please limit your communication to 5 minutes</p>
3.	FINANCE	Financial Statement – Not Applicable
4.	OPERATIONS CC	<p>Agreement – Black & Veatch regarding the North American Electric Reliability Corporation (NERC).</p> <p><i>Recommendation: Approve the agreement, pending City Attorney approval as to form, with Black & Veatch in the amount not to exceed of \$69,000 for support services involved with electric reliability standard compliance. Approve a budget transfer from contingency in the same amount.</i></p>
5.	OPERATIONS CC	<p>Agreement – Black & Veatch regarding Future Electric Needs and Alternative options</p> <p><i>Recommendation: Approve the agreement, pending City Attorney approval as to form, with Black & Veatch in the amount of \$154,000 for the performance of an integrated resource plan to evaluate the future electric needs and the alternative options to meet those needs. Approve a contract contingency of \$15,400 (10%) to cover unanticipated expenses. Approve a budget transfer from contingency in the amount of \$169,400.</i></p>

"Reports and Attachments" available at www.hollandbpw.com OR by request

Accommodations are available for persons with disabilities.
 If you need any aid, please contact the Holland Board of Public Works
 at 616/355-1520
 in advance of this Board meeting

AUDIENCE PARTICIPATION:

Members of the audience may address the Board of Directors during public hearings and under "Communications from the Audience".
 Audience participation includes stating name and address and limiting speaking time to five minutes.

Codes:

CC - Item also needs City Council action

HOLLAND BOARD OF PUBLIC WORKS
Operations Department
September 2, 2009

Electric Reliability Standard Compliance Support

Introduction

This recommendation is for the support needed in helping the Holland Board of Public Works (HBPW) find the best course of action in meeting mandatory electric reliability standards.

Recommendation

Approve the agreement, pending City Attorney approval as to form, with Black & Veatch (B&V) in the amount not to exceed \$69,000 for support services involved with the electric reliability standard compliance. Approve a budget transfer from contingency in the same amount.

Discussion

The Energy Policy Act of 2005 provided the Federal Energy Regulatory Commission (FERC) with the ability to promulgate enforceable electric reliability standards through an Electric Reliability Organization (ERO). That ERO is the North American Electric Reliability Corporation (NERC). In developing these standards, NERC uses a functional model approach. That means each entity involved with the electric utility industry must register at NERC for the functions it performs. For example, some entities might just provide distribution of electricity to customers, while others also are generation owners and operators. Holland is currently registered as a generation owner, generation operator, load serving entity, distribution provider and a purchasing – selling entity.

During a recent audit conducted by Reliability First Corporation (RFC), the regional reliability council (RRC) for the Midwest (like a subsidiary of NERC), RFC staff reviewed the Holland electrical system configuration and ratings and indicated that they believe Holland owns and operates transmission assets that are part of the bulk electric system. As a result, RFC believes that Holland should be registered as a transmission owner, transmission operator, transmission planner and a planning authority within NERC's functional model. Holland's staff met with RFC to attempt to get them to understand that while Holland's system is rated at over 100 kilovolts (a standard rating for distinguishing transmission from distribution), the system is a distribution serving system by function and in all operating scenarios. RFC was not convinced by HBPW arguments and has indicated that they plan to register Holland for the previously mentioned functions on September 14, 2009.

There are several steps involved with a process of appealing RFC's decision. This process will involve a great deal of technical and economic evaluations to find the best business solution and mitigation strategy. Four firms were contacted and two were thoroughly interviewed to determine their ability to provide this service. B&V is being selected due to a combination of technical and regulatory knowledge in this area of expertise. B&V will support the work being performed by the Washington DC law firm of Jennings Strouss through the appeals process and as Holland puts together the necessary mitigation plan to ensure compliance with whatever reliability standards are required at the conclusion.

Attachments:

**Black & Veatch proposal for technical and regulatory support
Professional services contract with Black & Veatch**

Report prepared and submitted by David G. Koster, Operations Director

August 30, 2009

Holland Board of Public Works
Mr. Dave Koster
64 Pine Avenue
Holland, Michigan 49423

Dear Mr. Koster:

Black & Veatch Ltd. of Michigan (Black & Veatch) is pleased to submit this revised proposal to provide technical and regulatory support/analysis to the Holland Board of Public Works (Holland) and its designated legal advisor with respect to the recent Reliability First audit as described in their letter of June 5, 2009. This proposal is based on our current understanding of the scope of work as discussed with our team members via two conference calls with you, and also includes our knowledge from similar assignments with respect to NERC/FERC/Reliability First directives and recommendations. This letter outlines our key team members, scope of work, schedule, and proposed contracting method.

Team

We propose a project team with specific municipal, transmission and regulatory experienced necessary to address these issues properly.

Bill Cole – Vice President, Client Relationship Manager – will be directly responsible to ensure that our project manager has access to the specialized talents of Black & Veatch team members needed to address any issues that arise in our project execution. He will not charge time to this project, unless a special request is needed. His job is to promote client satisfaction.

Steve Balsler – Project Manager - Steve is the former President of PTI, the globally respected transmission planning organization, Steve joined Black & Veatch 3 years ago to integrate his wide transmission/substation knowledge into a much more diverse and challenging set of projects that Black & Veatch encounters. Steve brings over 35 years of experience to his role as the leader and technical resource for this project.

Robert Miller – Technical Advisor, QA/QC - Robert has been the chief planning officer for a small electric utility in Florida with Disney World as its main client. Robert has planned transmission, substations and distribution systems for this utility, as well as the detailed electric power flow models. Robert will provide the technical backup for this project and will be QA/QC for any reports and supporting information that may be required.

These individuals have regulatory experience at the state level as well as experience in crafting responses to NERC and FERC rulings. This project team brings over 75 years of hands-on experience with generation, transmission (key focus area for all three individuals) and distribution issues. The heart of this project is their sweet spot. The right arguments, right data and evidence will be provided to support those arguments. Other individuals will work on this project if needed to support our “best cost” methodology to Holland, and to execute the work efficiently, but each project team member will be approved by Holland before assignment.

Scope of Work

In consultation with Holland, Black & Veatch will report to Holland's designated legal counsel providing technical assistance as described below, or in addition and when approved by Holland, for any other supporting task associated with this project scope. Black & Veatch proposes a conference call kickoff to fully define the scope, roles and responsibilities and communication protocols. It is also noted that key staff will be needed to respond to government agency documents in a timely manner. Potential dates for each phase are projected below. As a scoping framework, we believe that there are three key tasks to this assignment. Managing the project in this manner, allows Holland (and their designated legal counsel), to release work to Black & Veatch in a cost effective manner. Cost ranges, as requested, on a time and materials basis are shown with expenses additional (billed at cost):

Task 1: Reliability First Audit Letter of June 5 – Kickoff Workshop & Technical Analysis; Sep 1 - 15

- Review and analyze every aspect of technical evidence cited in the letter, and what issues are raised by the approach taken in the audit. Understanding what they have stated is a first step in understanding what Holland will do in reply.
- Review pertinent and recent related FERC, NERC and Reliability First public information with respect to inconsistencies or special case explanations provided by this information.
- Develop a prioritized listing of issues and a draft list of Task 2 (below) requirements related to the Holland electric system and its operation.

[Cost range for this service - \\$12k-\\$14k](#)

Task 2: Holland BPU Electric System and Operations Analysis; Sept 15 - 22

- Black & Veatch will review Holland's electric system with respect to issues identified in Task 1. This will be a technical review and will cover both engineering design basis and historic operations practices for that system.
- Using the prioritized listing of issues from Task 1, a conflicting/supporting matrix will be developed with respect to each issue that addresses both the technical and operational facts associated with the Holland system.

[Cost range for this service - \\$11k-\\$15k](#)

Task 3A: Regulatory Documentation Development Sept 15- Oct 4

- Black & Veatch will, as directed by Holland and legal counsel, develop draft technical components required to support arguments included in draft regulatory documents addressing the audit findings or other issues identified in this process.
- Based on Holland's direction, Black & Veatch will revise as needed for final regulatory response documents.

[Cost range for this service - \\$8k-\\$20k - very hard to quantify because of the variability per direction from Holland and legal](#)

Task 3B: Alternative Screening Analysis and Preliminary Design for Compliance Sept 15-March 31, 2010

- Black & Veatch understands that Holland may determine that compliance is a cost effective alternative. If that is the case, Black & Veatch will analyze and provide Holland with a plan for both the regulatory compliance and technical cost feasibility.

[Cost range for this service - \\$12k-\\$20k](#)

- Black & Veatch, at Holland's direction, will expedite the design of any project required by this plan, in order to comply with NERC or FERC requirements.

Cost range for this service - \$ TBD depending on the RE-engineer required

The following schedule of hourly billing rates would be applicable for all tasks on this assignment. Travel related expenses would be billed on a reimbursable basis at cost.

Analyst	\$120.00
Senior Analyst/Environmental	\$150.00
Consultant/ Senior Engineer	\$170.00
Manager	\$200.00
Principal Consultant	\$230.00
Director	\$260.00
Managing Director	\$315.00
Vice President	\$325.00

Note: Billing rates are subject to adjustment annually on January 1.

Schedule

Upon execution of an agreement and task order for this work, Black & Veatch will begin work within 5 days. We assume that all documentation with respect to the electric system will be made available as needed to Black & Veatch within a reasonable time after authorization to start.

Proposed Contracting

Black & Veatch proposes to complete these services under our standard consulting services agreement which will be sent to you following your agreement in principle to this indicative proposal. Both parties will use reasonable diligence to agree upon a mutually acceptable definitive written contract with respect to the work described in our proposal. When contracting considerations are finalized, an officer of Black & Veatch Ltd. of Michigan will sign for Black & Veatch. At this time I am signing this letter proposal as an officer of Black & Veatch Corporation for consideration purposes.

I hope this revised indicative proposal meets your requested needs, and look forward to discussing this immediately. My number is 913-568-3106. Thank you for the opportunity to revise our proposal.

Sincerely,



Black & Veatch

William C Cole

HOLLAND BOARD OF PUBLIC WORKS
Operations Department
September 2, 2009

Holland Generation Needs Assessment

Introduction

This recommendation is for the evaluation of generation alternatives to meet future electric demands.

Recommendation

Approve the agreement, pending City Attorney approval as to form, with Black & Veatch in the amount of \$154,000 for the performance of an integrated resource plan to evaluate the future electric needs and the alternative options to meet those needs. Approve a contract contingency of \$15,400 (10%) to cover unanticipated expenses. Approve a budget transfer from contingency in the amount of \$169,400.

Discussion

Holland Board of Public Works (HBPW) staff continually forecasts demands for electric service and evaluates ways of meeting that demand. Periodically, formal study of these options is necessary to establish a long range plan for a utility that requires significant capital investment for new generation resources. The most recent plans, which called for additional base-load resources to be obtained, set in motion the development process for options to meet that need. Specifically, Holland has been working for about six years to develop an option for a replacement project at the James De Young Generation Station (JDY). In addition to that option, others in the state are developing base-load resources that Holland could have the option of obtaining through its membership in the Michigan Public Power Agency. Since critical decision points for these options are near, it is important to evaluate the viability of each option in light of the current demand projections and forecasted market conditions.

Two firms were asked to supply proposals to perform this work. Black & Veatch (B&V) was selected based upon price and demonstrated experience with these studies. RW Beck was the other firm that provided a proposal. While RW Beck also possessed the demonstrated qualifications, their proposed fees were over \$200,000, nearing \$300,000 depending on the options selected.

The attached B&V proposal outlines an approach that begins with an analysis of future electrical demand expectations shaped by demand-side management efforts. Screening analyses are then performed for several generation resource types including a myriad of renewable resource types. From this information, specific expansion plan

cases will be run to evaluate the impact of the various proposed options, including a case where no additional generation is built and there is reliance on external market energy. Finally, B&V will report their findings and present them at a public meeting in Holland.

Attachments:

Black & Veatch proposal: Energy 2020 – Securing the Future Electric Needs for City of Holland

Professional services contract with Black & Veatch

Report prepared and submitted by David G. Koster, Operations Director

September 1, 2009

Holland Board of Public Works
Mr. Dave Koster
64 Pine Avenue
Holland, Michigan 49423

Subject: ***Energy 2020 – Securing the Future Electric Needs for City of Holland***

Dear Dave:

Black & Veatch Ltd. of Michigan (Black & Veatch) (see note at closing paragraph that explains contracting entity) is pleased to submit this revised proposal to provide to the Holland Board of Public Utilities (Utility) the support necessary to develop for the City of Holland (City or Holland) and its key public leaders a power supply plan for meeting generating needs for the next decade. This Need for Power Plan (Plan) and subsequent report will summarize for the City's leadership, and other potential stakeholders, (including the Michigan Public Service Commission (Commission) and other Michigan government agencies), an analysis of electric generation alternatives including demand side management and renewables. Currently the preliminary long term plans of the Utility include the potential for a 70 MW Circulating Fluidized Bed (CFB) power station. The report will review generating alternatives including this plant, and will help the City and its Utility focus on the "best cost" alternative necessary to meet Holland's 2020 needs. As an integrated municipal utility, building community, feeding economic growth and using innovation to address municipal services, are core objectives for your Utility and will be recognized in this study. Examples of this additional effort include those cost and avoided cost that provide indirect community development benefits. This "community values" component includes areas where objectives where a municipally owned utility will move beyond *least cost* alternatives to *best cost* alternatives. Dredging issues for Holland, downtown snow melt benefits, district heating options as well as wastewater treatment and solid waste handling all can be considered with indirect economic values assigned and included in the Holland need for power plan. Black & Veatch's extensive work with integrated municipal clients with regard to these Community Values components allows us to provide Holland with an appropriate scorecard of generation and demand side alternatives.

We propose that this project begin with a three stage workshop approach. First a Utility only kickoff workshop, followed by a City leadership workshop and closing with a stakeholder's workshop as an early on activity. This type of approach has been used in our work with other large and mid-sized municipal electric (and municipal integrated) utilities, as well as with need for power studies with Investor Owned entities. Black & Veatch has the capability to deal with the political dynamic as well as the analytic dynamic. And we bring the proper project experience with these efforts to deliver the study within both budget and political constraints. This is an effort designed to provide the City of Holland with a clear path forward, while at the same time addressing peripheral needs and/or requirements that may exist or develop as a result of the analysis.

We have developed this proposal based on our current understanding of the scope of work as discussed with you on previous occasions. We have revised the content to reflect your requested revisions. This letter outlines our key team members, scope of work, fee structure, schedule, and proposed contracting.

As you consider our key proposal points below, we ask that you reflect on a number of differentiators that address

Why Black & Veatch?

- *Unlike other consultants, **Black & Veatch does the “real work” in designing and building plants and therefore can leverage that knowledge into the definitional planning requirements better than our “consult only” competitors.** We understand the pros, cons, and true cost of each type of generation, as well as the systemic issues brought by each energy alternative... meaning – We believe what we can bring to Holland is the best level of preparation and planning to defend any of Holland’s future plans.*
- *We know Michigan electric issues and its full family of power generation, transmission and operations...meaning, two things - **the help that you need is close by and we will deliver the scope effectively...because **Black & Veatch Ltd. of Michigan’s future depends on our project team’s performance.*****
- *We have “been there and done that”... for many public power agencies and municipals, nationwide. **We know the obstacles and roadblocks you will face, meaning - we can help steer you clear of some of the bumps along the way.***
- ***This proposed team has worked multiple similar engagements in the last five years meaning - the learning curve is not an issue and team members understand their roles and obligations to you, the Client.***
- *At this stage in your project’s development, there are reasons to consider “new advisory help”... **Our new set of eyes, our strong construction and engineering knowledge, and just as importantly, our use of Strategist as our core platform bring you closer to success...** We know the model’s capabilities, drawbacks and complications, and can work through with you, the modeling methodology that Michigan wants to see.*

Team

We propose a project team of experienced Black & Veatch professionals as summarized below.

Bill Cole – Client Relationship Manager

Chris Klausner – Project Manager

Roger McCloud – Strategist™ Modeler

Debashis Bose – Strategist™ Modeler

Matt Hunsaker – Renewable Technology Specialist

Below is a brief description of each professional’s proposed role on this engagement. This team has worked together on similar projects and will bring that knowledge to this effort to gain efficiency in the

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process. Our experience with the Strategist™ will be an immediate positive to the Utility's ability to demonstrate quick results.

Bill Cole - Vice President, Client Relationship Manager

Mr. Cole is a Vice President of Black & Veatch's Enterprise Management Solutions division who serves as client relationship manager in the Midwest. Mr. Cole will help facilitate strategy meetings and open client communications throughout the project process.

Chris Klausner – Principal, Project Manager

Mr. Klausner has a B.S. in Mechanical Engineering, and M.B.A., and is a licensed professional engineer in the State of Kansas with 18 years experience. He has managed several resource planning studies covering a wide variety of services, and evaluations of numerous resource options. Mr. Klausner will direct and oversee the power supply study efforts.

Roger McCloud – Consultant, Modeling Specialist

Mr. McCloud has a B.S. in electrical engineering and M.B.A. Mr. McCloud, a consultant with nearly 30 years of industry experience, has been responsible for various economic planning and feasibility studies. These studies provide planning, financial and economic analysis in the areas: of production cost modeling, value-at-risk analyses, financial pro forma modeling, operations and maintenance expense projections, environmental, plant performance, project contracts, project capital costs, cost-of-service analysis, rate analysis and organizational structure.

Debashis Bose – Consultant, Modeling Specialist

Mr. Bose has a bachelor degree in Civil Engineering and M.B.A. He has over 10 years experience in the energy industry in USA and in India. He has extensive experience in production cost modeling using PROMOD and PROSYM tools, resource planning for electric utilities using Strategist™, energy market analyses, preparation and evaluation of requests for proposals (RFPs) for power supply contracts and portfolio evaluations. He has also performed various economic planning and feasibility studies and risk assessments for different utilities. In addition Mr. Bose has worked on various independent engineering assessment projects for project financiers, developers, owners and prospective buyers trying to acquire generation assets.

Matt Hunsaker – Consultant, Renewable Specialist

Mr. Hunsaker has a B.S. in chemical engineering and M.A. in economics. Mr. Hunsaker is an energy consultant specializing in utility portfolio planning, market studies, economic modeling and renewable energy technologies. In this position, he carries out work related to feasibility studies, due diligence, strategy, resource assessments and project evaluations. Mr. Hunsaker has specialized experience reviewing and analyzing projects and proposals for renewable energy assets.

Other Professionals

In addition to these highly qualified individuals, Black & Veatch's engagement team will be supported by other specialists from within Black & Veatch. Through our more than 9,600 professionals, we provide complete engineering, construction, financial, technical and management consulting services for industry, utilities and government agencies. Our project team will be able to utilize specialists throughout the company that include business consultants, DSM, O&M consultants, engineers from all disciplines, cost estimating specialists, construction specialists, and others as may be needed.

Scope of Work

In consultation with Holland, Black & Veatch will perform a twenty (20) year power supply/need for power study. Black & Veatch proposes to host a conference call to kickoff the project. The project workshop series can then be scheduled to follow up on this initial phone kickoff

Task 1: Load Forecast

- Review and analyze Holland's historical loads and growth trends in demand and energy
- Review the most recent demand and energy forecasts for Holland
- Utilize these demand and energy load forecasts in the evaluations

Task 2: Demand Side Management Evaluation

- Black & Veatch will review Holland's Demand Side Management (DSM) studies (assumed prepared by others) and discuss programs that may prove cost effective for potential savings.
- Incorporate findings (costs, load and energy reductions) from past DSM studies in the analysis.

Black & Veatch has the capability to conduct additional DSM related study activities if requested by Holland, and the cost associated with this additional DSM effort is indicated as an option in Task 10.

Task 3: Summarize Existing Resources and Develop Capacity Balance

- Black & Veatch will summarize the existing owned resources, PPAs, and other resources available to meet Holland's needs by year over the 20 year study period.
- Black & Veatch will analyze the possible retirements of existing units based on the following principle:
 - 65 Year Life Expectancy for Base/Coal Units
 - 40 Year Life Expectancy for Combustion Turbine Unit
- Based on Holland's resources and forecast demand (with and without DSM savings), Black & Veatch will estimate the remaining capacity requirements by year over the 20 year study period.

Task 4: Screening Analysis Potential Resources Available

- Black & Veatch will evaluate the following generic alternatives on a levelized busbar cost basis including a discussion of technology maturity as appropriate:
 - Wind (2.5 MW Offshore and Onshore)
 - Biogas (Landfill)
 - Biomass (35 MW Size Class of Unit)
 - Combined Cycle (2 x 1 7EA)
 - Simple Cycle CT (LMS100)
 - Solar
 - Solar Thermal
 - Supercritical PC with and without CCS
 - Wave Energy
 - Nuclear
 - Hydroelectric
 - Potential Power Purchase Agreements (PPA)

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- In addition to the above generic alternatives, Black & Veatch will also evaluate specific generating alternatives (including 70 MW CFB Plant, participation in Karn/Wedock supercritical coal unit and/or Rogers City CFB) based on information provided by Holland.
- Black & Veatch proposes to present a busbar screening analysis of various renewable and conventional resources selected for evaluation. Black & Veatch will develop general, high level busbar costs on a \$/MWh basis. Black & Veatch will characterize the expected energy cost of these types of resources or otherwise discuss why these are not available to Holland.
- For specific resources that need to be evaluated, Black & Veatch assumes that Holland will provide cost (fuel, operation and maintenance, capital cost, etc.) and operating data (heat rate, emission rates, scheduled outage rate, forced outage rate, etc.) to be used. Black & Veatch will incorporate this data into the Strategist™ model.
- Based on the initial bus bar screening and the RPS standards and guidelines for the state of Michigan, Black & Veatch will discuss with Holland and develop a base case optimization expansion plan. Cost effective alternatives will be considered in the base case optimization modeling using Strategist™.
- Black and Veatch would also evaluate the following additional optimization cases using Strategist™. These expansion plans would include:
 - Build a 70 MW Circulating Fluidized Bed plant in Holland
 - Part ownership of Consumers Energy Karn/Wedock Supercritical Pulverized coal 800 MW Unit
 - Part ownership of Wolverine Power Supply Cooperative Rogers City 2x300 Circulating Fluidized Bed plant
 - Convert existing Holland Unit 9 combustion turbine into a 2x1 combined cycle unit by adding a GE 7EA CT, adding an 7 EA for 2 on 1 with Capacity Ownership Sale to Michigan Public Power Agency)
 - No new capacity build out but market purchases only
 - Capacity build out assuming 20% RPS requirement
 - Build a 44 MW Circulating Fluidized Bed plant in Holland with CCS (plant details assumed to be provided by Holland)
- Specific outputs from the Strategist™ runs will be provided in Excel Format. We have assumed that we would provide the following outputs for each of the cases:
 - Expansion plan for the 20 year study period
 - Load and resources
 - Annual system cost
 - Annual emissions amount and annual emissions cost for all pollutants modeled.
- Black & Veatch would be able to provide more reports if requested by Holland, but that may result in additional cost.

(The above additions to task 4 are designed to meet both objectives stated by Holland, the need for independence in the power supply assessment, and the need to review a number of potential options that stakeholders and the City's leaders have suggested)

Task 5: Emissions Profile

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- Using energy data provided by Holland for existing units and purchases, Black & Veatch will estimate recent annual emissions and forecast emissions for the future portfolio considered including SO₂, NO_x and CO₂, and other pollutants where emissions rate information is available. Where market purchases are involved a composite - emission rate for the market will be assumed.

Task 6: Market Prices

- Black & Veatch will provide our fuel, market energy, and emissions price forecast for use in this analysis. The cost to purchase our Black & Veatch's fall price forecast is \$12,000 and is included in our price. A description of the full market document will be available to the Utility for its own use in additional planning exercises.

Task 7: Evaluate Existing Plant Upgrades

- With information of any potential efficiency upgrades at existing plants provided by Holland, Black & Veatch will evaluate the cost effectiveness of up to three of these upgrades in comparison to the new 70 MW CFB unit.

Task 8: Reports

- Black & Veatch will document the analyses in a draft and final report.
- Black & Veatch will present the findings of the study to Holland. We have experience with both the presentation process and in crafting the presentation message appropriately for both City leadership and other key stakeholders.

Task 9: Econometric Analysis for Black & Veatch Limited Load Forecast (Optional)

- Black & Veatch will conduct an econometric forecast for the Holland system, and will discuss with the staff major factors that could produce future load growth that deviates from historical trends. Such factors could include service territory build out, industry trends (such as loss of industrial jobs), and other factors. It is assumed that to facilitate the forecasting process, Black & Veatch will be provided with the methodology and data bases used in previous forecasts, and available information concerning the following:
 - Historical load growth by substation
 - Historical end use by customer class and number of customers per class
 - Projection of substation and distribution system expansion over the next 10 years
 - A service territory map
 - A listing of known major new loads or requests for interconnects in the near future, such as new housing additions, and major commercial or industrial loads announced, planned, or anticipated.
 - Land use and zoning maps corresponding to the service territory

Task 10: Limited Demand Side Management Study (Optional)

As indicated in Task 2, Black & Veatch can provide a more detailed DSM study if requested by Holland. This study will look into the different DSM programs and evaluate the potential energy savings and costs associated with these programs. Potential energy savings and cost information of the recommended DSM programs would be used in evaluating options for Holland with the modeling in Strategist™.

Fee Structure Task 1-8

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Black & Veatch proposes to complete the revised Tasks 1 through 8 of the scope of work on a time and materials basis for an estimated price of \$138,000 (which includes the Fall forecast described in Task 6), plus travel related expenses. We have plans for two trips, one at kickoff and one to present the Energy 2020 results.

Fee Structure Task 9 - 10

Black & Veatch proposes to complete Task 9 of the scope of work, which is an additional and optional task, on a time and materials basis for an estimated price of \$16,000, plus travel related expenses, if any.

Black & Veatch proposes to complete Task 10 after a thorough definition of DSM requirements with Holland. Scope descriptions for DSM require that a clear understanding be agreed upon by Holland and Black & Veatch on necessary tasks. DSM inputs MSUT be determined in the early stages of the project, to avoid delaying the modeling process. Therefore, we believe that agreement on any additional DSM work scope must be finalized in Week 1 of project implementation in order to not impact the schedule adversely. This approach avoids potentially unnecessary steps, while still providing critical tasks which are needed for an independent assessment. We will work with the Holland team to finalize this DSM scoping exercise immediately.

The following schedule of hourly billing rates would be applicable for all tasks on this assignment. Travel related expenses would be billed on a reimbursable basis at cost.

Analyst	\$120.00
Senior Analyst/Environmental	\$150.00
Consultant/ Senior Engineer	\$170.00
Manager	\$200.00
Principal Consultant	\$230.00
Director	\$260.00
Managing Director	\$315.00
Vice President	\$325.00

Note: Billing rates are subject to adjustment annually on January 1.

Schedule

Upon execution of an agreement and assuming receipt of requested documents from Holland within 5 days, Black & Veatch will begin work immediately and expect that a draft report can be issued within 2 to 3 months. The final report will be completed after receiving comments on the draft report from Holland. We have assumed that all documentation will be provided to Black & Veatch within a reasonable time after authorization to start.

Proposed Contracting

Black & Veatch proposes to complete these services under our standard consulting services agreement (with an additional section containing terms for use of the price forecast). Upon acceptance in principal of this proposed scope and conditions, both parties will use reasonable diligence to agree upon a mutually acceptable definitive written contract with respect to the work described. When contracting considerations are finalized, an officer of Black & Veatch Ltd. of Michigan will sign for Black & Veatch. At this time I am signing this letter proposal as an officer of Black & Veatch Corporation for consideration purposes.